THE FORTY-SIXTH YEAR.

Companion to the Almanac;

OR,

YEAR-BOOK

OF

GENERAL INFORMATION

FOR

1873.

PART I.

GENERAL INFORMATION ON SUBJECTS OF ASTRONOMY, LITERATURE, CURRENCY, FINE ARTS, AND POLITICAL ECONOMY.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, METROPOLITAN CHARITIES, LEGISLATION, STATISTICS, AND CHRONICLE OF 1871-72.

LONDON:

PRINTED FOR

THE COMPANY OF STATIONERS,

AND SOLD BY J. GREENHILL, AT THEIR HALL, LUDGATE HILL,

PRICE TWO SHILLINGS AND SIXPENCE; OR, FOUR SHILLINGS BOUND WITH THE BRITISH ALMANAC.

HARRISON AND SONS,
PRINTERS IN ORDINARY TO HER MAJESTY,
ST. MARTIN'S LANE.

CONTENTS.

PART I

GENERAL INFORMATION ON SUBJECTS OF ASTRONOMY, LITERATURE, CURRENCY, FINE ARTS, AND POLITICAL ECONOMY.

Page

The Sun and Recent Solar Discoveries. By R. A. PROCTOR, B.A., F.R.A.S. 5

The Lighthouse System of the British Islands. By GEORGE DODD 33

Cheap Literature—Past and Present. By JOHN POWNALL HARRISON 60

Learned Societies and Academies. By WILLIAM E. A. AXON, M.R.S.L., F.S.S. 81

Coinage at Home and Abroad. By JOHN CROWDY 102

Fine Art Workmanship at the International Exhibition of 1872, and the Walter Press. By ARTHUR LOCKER . . . 114

Capital and Labour in 1872. By JOHN PLUMMER . . . 134

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, METROPOLITAN CHARITIES, LEGISLATION, STATISTICS, AND CHRONICLE OF 1871-72.

Architecture and Public Improvements. By JAMES THORNE, F.S.A.

1. General Progress. Art and Public Monuments . 149
2. Public and Sanitary Works 162
3. Churches and Chapels 166
4. Buildings for Public Purposes 177
5. Buildings connected with Education, Art, &c. . 180
6. Street Architecture 183
7. Bridges, Docks, &c. 185

Metropolitan Charities at the Present Day. By CHARLES MACKESON, F.S.S.

1. City Companies 187
2. Parochial Charities 189
3. Educational Charities and Schools . . . 191
4. Institutions for Mental and Social Improvement . 194
5. Sanitary Improvement 195
6. Employment Societies 199
7. Emigration Funds and Clubs 200
8. Book and Tract Societies 201
9. Missionary and Religious Societies . . . 202

Table of all the Public General Acts of Parliament for 1872 . 207

Abstracts of Important Acts of Parliament :—

1. Army and Navy :
   Military Manœuvres 217

124

Abstracts of Important Acts of Parliament (*continued*)— Page

2. Church and Education:
   - Amendment of the Act of Uniformity . . 217
   - Resignation of Deans and Canons . . . 218
   - Baptismal Fees 220
   - Church Seats 220
3. Crime and Pauperism:
   - Reformatory and Industrial Schools . . . 220
   - Infant Life Protection 221
4. Finance and Taxation:
   - Superannuation of Public Officials . . . 222
   - Life Assurance Companies 222
   - Court of Chancery Funds 223
   - Bank of England Directors 223
5. Parliamentary Procedure, Law, and Justice:
   - Judges' Salaries 224
   - Quaker Marriages 224
   - Loans for County Buildings 224
   - The Ballot Act 224
6. Trade and Shipping:
   - Licensing Act 234
   - Pawnbrokers 236
   - Merchant Shipping Acts Amendment . . 237
   - Steam Whistles in Manufactories . . . 238
7. Local Government:
   - Adulteration of Food, Drink, and Drugs . . 238
   - Royal Parks and Gardens 239
   - Corrupt Practices at Municipal Elections . . 240
   - Public Health 240

Abstracts of Parliamentary and other Official Documents:
1. Finance, Taxation, and Currency 247
2. General Commerce and Navigation . . . 251
3. Trade and Agriculture 257
4. Population, Public Employment, and Vital Statistics 261
5. Crime, Pauperism, and Accidents 264
6. Education, Science, and Art 268
7. Social Economy 271
8. Emigration 272
9. The Post Office 273
10. Miscellaneous 275

Chronicle of Events and Occurrences (1871–72) 276

Necrological Table 1871-72 282

INDEX 288

COMPANION TO THE ALMANAC

FOR

1873.

PART I.

GENERAL INFORMATION ON SUBJECTS OF ASTRONOMY, LITERATURE, CURRENCY, FINE ARTS, AND POLITICAL ECONOMY.

THE SUN AND RECENT SOLAR DISCOVERIES.

DURING the last few years our knowledge respecting the sun,—the great central luminary round which all the planets travel,—has been greatly extended. Methods of observation have been invented which formerly would have seemed altogether impracticable; discoveries of the most interesting nature have been made, not only respecting the sun's globe itself, but respecting the space surrounding him; and we begin, in fine, to recognise the real nature of that wonderful globe whose mighty energy sways the motions of the planets, while his light and heat supply the wants of the myriads of races inhabiting these orbs.

We propose to give a sketch of the most striking discoveries which have rewarded recent observations. It will be desirable, however, in the first place, to describe briefly what had been already ascertained respecting the sun.

The sun is a globe about 840,000 miles in diameter, and thus exceeding our earth about 107 times in his linear dimensions. The surface of the sun exceeds the earth's about 11,600 times; his volume is 1,250,000 times greater than hers; and lastly, he contains about 315,000 times as much matter. He is either a perfect sphere, or so nearly so that no observational means at present in use show the slightest compression.

The sun's surface is intensely hot; and probably his whole globe is in a state of the most fiery heat. But the surface is all that we can study, so that our opinion as to the state of the sun's interior is based on what we know as to his surface.

Before the invention of the telescope little was known about the true aspect of the sun's disc. The ancients supposed the sun to glow constantly with light and heat, every part of his globe being equally brilliant.

But very soon after the invention of the telescope, astronomers learned that there are spots on the sun. The famous Florentine Galileo, and the Germans Fabricius and Scheiner, independently,

and at about the same time, made this interesting discovery. They perceived dark spots, usually bordered by a dusky fringe, which appeared to traverse the sun's face from east to west. By carefully watching the motions of these objects, they found that they must be on the actual surface of the sun (not opaque bodies carried between us and the sun). They thus learned that the sun like the earth turns round on an axis, making one complete turn, as seen from the earth in about twenty-nine days; but in reality (taking into account the motion of the earth) revolving once upon his axis in about twenty-five days.

Many years passed before much was learned as to the nature of these spots. In the year 1769, Dr. Wilson, of Glasgow, having carefully watched a large spot as it traversed the sun's disc, noticed changes in its appearance which led to the belief that it was a vast cavity in the solar surface. The upper row of spots

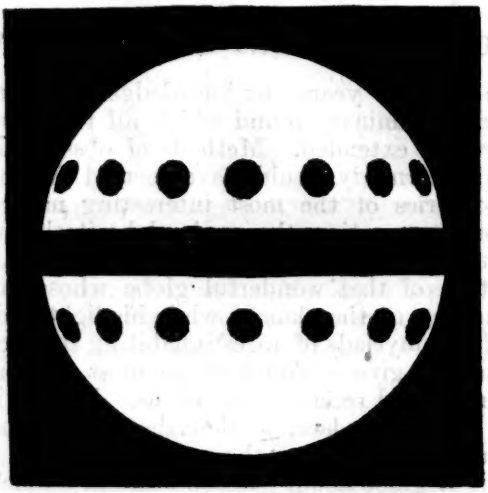


Fig. 1.—Illustrating Dr. Wilson's reasoning respecting the spots.

in fig. 1, shows how the particular spot observed by Wilson changed in appearance as it crossed the sun's face. It will be seen that when near the centre of the disc, the dusky fringe round the spot (the *penumbra* as it is called) appeared equally wide all round; but that as the spot approached the western edge, the part of the penumbra farthest from the edge grew narrower and ultimately disappeared, while the part nearest the edge was still well seen. Similar appearances were presented, only in a reverse order, after the spot had re-appeared on the eastern side of the sun. Now, if a spot were a mere surface-stain with a penumbral fringe also on the surface, it is clear that as it crossed the disc it would change in appearance in the way shown in the lower half of the figure, becoming oval in apparent shape, but the penumbra symmetrically disposed all round. But if the dark part of the spot (the *umbra* as it is called) is depressed below the general surface, and the penumbra is the sloping wall

of the cavity thus formed, then the appearances seen by Dr. Wilson must be presented. This is shown by fig. 2. Here A, B, and C represent saucer-shaped cavities, such as Wilson supposed the spots to be (the sloping sides being for convenience of illustration supposed to be transparent). Then it is clear that to an eye supposed to view these depressions from above, the seem-

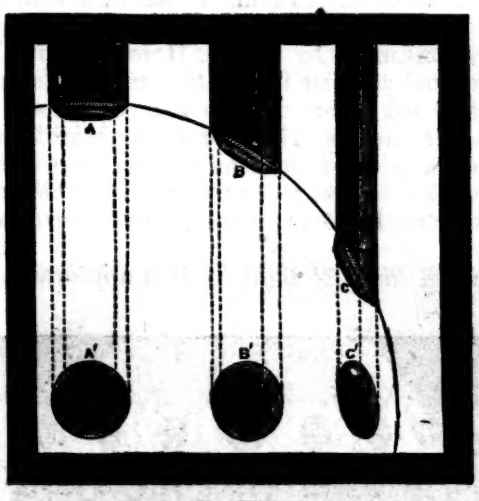


Fig. 2.—Illustrating Dr. Wilson's theory sun spots.

ing breadth of the black base and of the shaded sides would correspond to the breadth of the dark and shaded spaces carried vertically upwards. That is, the aspect of the three saucer-shaped depressions would be as indicated at A′, B′, and C′, according therefore with the appearances seen by Wilson.

Sir W. Herschel, in 1777, noticed similar appearances in a fine spot then visible. Adopting Wilson's general theory, he was led to certain very interesting conclusions as to the nature of the sun's surface. He argued that if the surface were solid these great cavities could not form nor change so rapidly as they are often observed to do; while if the spots were openings in a gaseous or liquid substance they would not remain visible as sometimes happens for several months in succession. He concluded, therefore, that the substance in which these openings take place is of the nature of our terrestrial clouds. To account for all the observed appearances, he suggested that the sun is surrounded by a double coating of clouds, suspended in a translucent atmosphere. The outer stratum of clouds he supposed to be self-luminous, and to be the true source of the solar light and heat. The inner stratum he regarded as opaque, and only rendered luminous by the light which falls upon it from the outer. When an opening is formed in the outer coating of clouds, we see only a dusky spot without an umbra, because the inner cloud layer is revealed, and this layer though not self-luminous can yet reflect a large amount of light. When, however, an opening is

formed through both layers,—the outer being removed over a greater extent,—we see the dark body of the sun forming the umbra and a surrounding fringe formed by the inner cloud layer.

Although recent researches do not support Herschel's theory that the body of the sun is dark, yet his general inferences as to the existence of cloud-layers remain still in favour among many astronomers of eminence.

The observations made by Sir W. Herschel, with his powerful telescopes, revealed peculiarities of the sun's surface not hitherto noticed. It had long been known that in certain parts of the sun, and especially around the spots, very bright streaks (much brighter than the rest of the surface) can be perceived. These are called *faculæ* (from a Latin word signifying a *torch*). Herschel discovered, however, that the whole surface of the sun is marked by a great unevenness "having the appearance of small points of an unequal light." This appearance is shown in

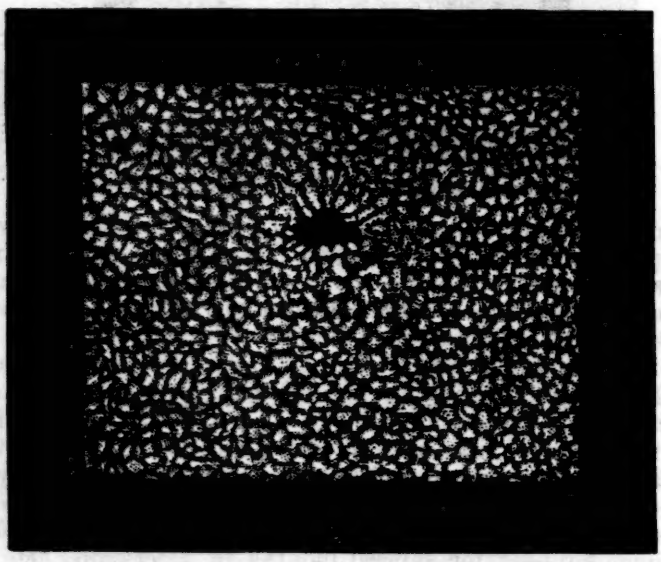


Fig. 3.—Corrugation of the sun's surface. (Secchi.)

the accompanying picture (fig. 3) of a portion of the sun's surface as seen recently by the eminent Italian observer Secchi. This picture also shows the appearance of a small spot with high telescopic power.

In fig. 4, an enlarged view of the corrugations is shown with *facula* as seen with a high power. Herschel regarded the faculæ as regions where the separate clouds of his 'outer layer' were more closely aggregated than elsewhere.

In recent times these corrugations have been examined with more powerful instruments, or rather with telescopes defining

more clearly the details of the sun's surface. It has been found that the whole surface of the sun is covered with small bright spots, compared by some observers to leaves, by others to rice-grains, but more generally described as granules. These bright objects, though they appear small even in the most powerful telescopes, are in reality from two or three hundred to a thousand

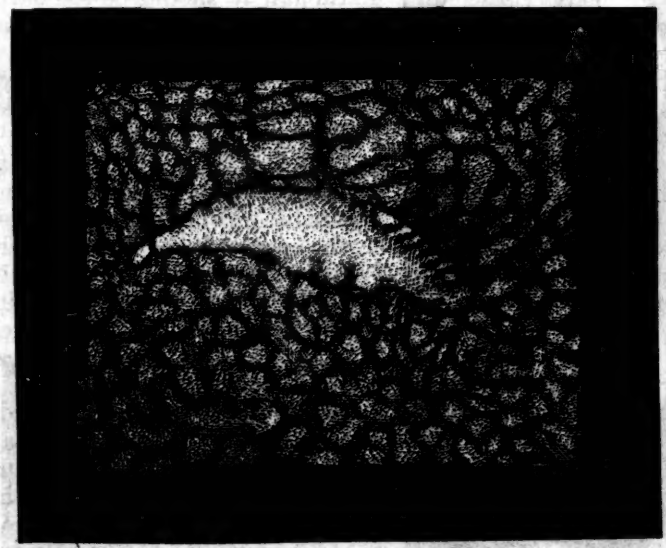


Fig. 4.—The sun's surface, showing a facula. (Secchi.)

miles in length, and obviously constitute a most important part of the solar economy. Sir J. Herschel considers that from these bright objects 99-hundredths of the solar light and heat proceed. Close to the spots they appear elongated, and seem sometimes (though perhaps only by an optical delusion) to interlace. "What are these things?" says Secchi (referring to their appearance in a spot which he was examining). "I see veils of the most intricate structure. The spot has a nucleus in which are the leaves shown in the drawing (fig. 5), all arranged in a radiating manner, precisely like a crystallization of sal-ammoniac seen by means of the solar microscope attached to a stalk. It is clear that the rest of the nucleus is due to the rarefaction of such leaves. There cannot be a doubt of the matter." Of the same spot, a few days later, Secchi says, "It was in a marvellous condition, full of bridges, arcs, stalks, and leaves, like the great spot of 1866." Sir John Herschel says, that "these flakes are evidently *the immediate sources of the solar light and heat*, by

Fig. 5.—The solar leaves as seen in a spot. (Secchi.)

whatever mechanism or whatever processes they may be enabled to develope these elements from the bosom of the non-luminous fluid in which they appear to float. Looked at in this point of view, we cannot refuse to regard them as *organisms* of some peculiar and amazing kind; and though it should be too daring to speak of such organisms as partaking of the nature of *life*, yet we do know that vital action is competent to develope at once heat and light and electricity."

The spot-zones on the sun.

Fig. 9.—About September 5.
Fig. 8.—About June 5.
Fig. 7.—About March 6.
Fig. 6.—About December 6.

It had been noticed by Galileo, and had been amply confirmed by the labours of later observers, that the spots on the sun appear only in two zones on either side of the solar equator,—corresponding in some degree to the terrestrial zones on the earth. A careful study of the motions of the spots at different seasons had led further to the discovery that the sun's axis is somewhat inclined to the level in which the earth pursues her circuit, so that the spot zones are not always seen in precisely the same aspect. Figs. 5, 6, 7, and 8, show the position of the spot zones as seen in December, March, June, and September, respectively, and the reader will understand that at intermediate periods the zones present intermediate aspects. The black part of the zones here pictured shows the region where spots are most numerous, and attain their greatest dimensions; the darkly-shaded bands on either side of the black zone, show regions where spots are not quite so often seen; while lastly, the lightly-shaded bands which complete the spot-zones are regions where spots are only occasionally seen, and are nearly always small. On the remaining portions of the sun's surface spots are never seen.

Sir John Herschel comparing these spot-zones with the regions of our earth where tornadoes rage—the terrestrial storm-zones, as we may call them,—was led to the conclusion that the solar

spots should 'be assimilated to those regions on the earth's surface in which for the moment hurricanes and tornadoes prevail, the upper stratum being temporarily carried downwards, displacing by its impetus the two strata of luminous matter beneath, the upper, of course, to a greater extent than the lower, and thus wholly or partially denuding the opaque surface of the sun below.' It is worthy of notice that some spots have been observed to show very well marked signs of whirling motion, corresponding to the theory of Sir John Herschel, that the spots are solar cyclones.

We now approach one of the most remarkable discoveries of recent times. It had been noticed that sometimes for months together the sun's face shows no spots, or few (and those few small), while at other epochs spots of the most remarkable extent make their appearance in quick succession. The eminent German astronomer, Schwabe, of Dessau, was led to inquire whether any law prevails in these changes. A very remarkable result rewarded his labours. He found that there is a regular alternation between the periods when the sun scarcely shows any spots, and when he shows many and large ones. In about 11 years (or $11\frac{1}{11}$, according to later researches), the full cycle of changes is passed through. Supposing that at the beginning of one of these 11-yearly periods the spots are most numerous, then year after year spots grow less and less numerous until none or few are seen. Then after awhile spots begin to reappear, become more and more numerous, and finally at the end of about 11 years attain the frequency observed at the commencement of the series.

These results have been confirmed by the researches of the English observers, Carrington, De la Rue, Balfour Stewart, and Loewy. The three last-named, as also Wolf, of Munich, have recognized the fact that the spots increase in frequency much more rapidly than they decrease, insomuch that while only about $3\frac{2}{3}$ years are occupied in the gradual increase of spot-frequency from its minimum to its maximum, more than twice as many years are occupied by the reverse process reducing the spots again to their minimum.

The researches of Carrington have shown that the spots in different parts of the spot-zones rotate at different rates. Thus, in solar latitude 40 degrees, the spots rotate at such a rate that the sun's rotation period, if estimated from their motion, would be set at about 27 days. On the contrary, at the lowest solar latitude in which spots are ever seen, the rotation-rate would give a period of only 25 days. Mr. Carrington considers that the equatorial rotation (undiscernible, of course, because no spots exist in this region) is completed in about 24 days. Strangely enough the southern hemisphere of the sun shows less rapid rates of rotation—latitude for latitude—than the northern.

Another very singular relation has been discovered during the recent observation of the solar spots. We have seen that the cycle of changes is completed in about 11 years. Now it had been noticed by Lamont, in 1850, that the perturbations which

affect the magnetic needle have a corresponding period. Two years later General Sabine, and (independently) Professors Wolf and Gautier, were led to notice the coincidence between the magnetic period and that of the solar spots. They found that when the spots are most frequent, the magnetic disturbance is at a maximum, and when there are no spots, or few, the magnetic disturbance is reduced to its minimum.

A singular circumstance which occurred in the year 1859 seems to confirm the theory that terrestrial magnetic relations are affected by the condition of the solar surface. Carrington was observing the sun on September 1 of that year, and had just completed a picture of the spots then discernible, when within a great spot '(the size of which had previously excited general remark) two patches of intensely bright and white light broke out.' "My first impression," says Carrington, "was, that by some chance a ray of light had penetrated a hole in the screen attached to the object-glass, for the brilliancy was fully equal to that of direct sunlight." But he soon found that he was 'an unprepared witness of a very different affair.' These bright spots were real solar phenomena. At the end of five minutes they had traversed a space equal to about 35,000 miles. "It was impossible," adds Carrington, "on first witnessing an appearance so similar to a sudden conflagration, not to expect a considerable result in the way of alteration of the details of the spot-group in which it occurred; and I was certainly surprised, on returning to the sketch which I had carefully and satisfactorily finished before the occurrence, at finding myself unable to recognise any change whatever as having taken place. The impression left upon me is that the phenomenon took place at an elevation considerably above the general surface of the sun, and accordingly altogether above and over the great group on which it was seen projected. Both in figure and position the patches of light seemed entirely independent of the configuration of the great spot, and of its parts, whether nucleus or umbra." Fortunately another observer, Mr. Hodgson, witnessed the occurrence at the same time at another observatory.

Now at the very moment when the sun was thus disturbed, the magnetic instruments at Kew were perturbed as when a magnetic storm is breaking out. The storm thus announced was accompanied by all the signs of intense magnetic disturbances. Auroras occurred in both hemispheres, and in regions where such phenomena are very seldom witnessed. Strong earth currents traversed the telegraphic lines, and the magnetic needles in all observatories were displaced from their normal position. "By degrees," says Sir J. Herschel, "accounts began to pour in of great auroras seen on the nights of these days, not only in these latitudes but at Rome; in the West Indies; in the tropics within 18 degrees of the equator (where they hardly ever appear); nay, what is still more striking, in South America and in Australia, where, at Melbourne, on the night of September 2, the greatest aurora ever seen there made its appearance. These

auroras were accompanied with unusually great electro-magnetic disturbance in every part of the world. In many places the telegraph wires struck work. They had, too, many private messages of their own to convey. At Washington and Philadelphia the telegraph signalmen received severe electric shocks. At a station in Norway the telegraphic apparatus was set fire to; and at Boston, in North America, a flame of fire followed the pen of Blair's electric telegraph."

Although no similar evidence has since been obtained, it seems at least highly probable that a real connection of some sort exists between processes at work upon the sun's globe and magnetic disturbances on our own earth.

It has been shown, moreover, by the systematic observations of De la Rue, Stewart, and Loewy, that a connection of some sort exists between the motions of the planets and the phenomena of the solar spots. It has been rendered, at least, highly probable that Venus exerts a special influence in this respect, and that the conjunctions of the planets affect the general condition of the solar surface.

Thus we seem led to the conclusion, that other bonds associate the sun with the various members of his family, than those depending on his action as ruler of the planetary system. It would seem that the planets affect the sun's condition, while he in turn, responding to such influences, causes magnetic thrills, if one may so speak, to affect each member of his family of dependent orbs. "Our whole solar system would seem," says Sabine, "to thrill almost like a living creature under the excitement" of the mysterious influences exerted by the sun.

We are thus at once led to the inquiry whether, outside that surface which the sun presents to ordinary vision, there may not be matter reaching outwards, as it were into space, so as to extend the range of the sun's direct influence.

The splendour of the solar orb under ordinary conditions prevents us from recognising matter exterior to him. Not only are our eyes dazzled by his brilliancy, and so rendered blind to fainter lights close by him, but he so illuminates our atmosphere as to cause it to be in a sense a veil of light hiding from our view every light in the heavens save his own resplendent orb.

In eclipse, however, the splendour of the sun's disc is concealed, the atmospheric veil is removed, and we obtain for a few brief minutes a view of that surrounding region which is ordinarily concealed from our vision.

Under these circumstances objects of a most remarkable nature make their appearance. First, and most obviously to the unaided vision, there appears around the dark orb of the eclipsing moon a glory of light, very bright and conspicuous, close by the concealed sun, and growing fainter outwards, with rays and streamers, dark gaps and irregular expansions, extending sometimes but to a small distance from the sun, but in certain eclipses traceable to a distance exceeding his own diameter three or four times. Secondly, there can be seen, with the aid of the telescope,

certain bright rose-tinted prominences, of small elevation compared to the glory or corona, sometimes resembling mountains, at others flames, and not unfrequently suspended like clouds, or fire-balloons, outside the dark disc of the moon—"like garnets set round a brooch of jet." We shall deal here first with these objects, the now famous *coloured prominences.*

The prominences were first seen during the total eclipse of 1842; but the observers were too little prepared for a phenomenon of so surprising a character to be enabled to make observations satisfactorily showing whether the coloured prominences belong to the sun or moon.

But in 1851 all doubts on the subject were set at rest. During the Swedish eclipse of that year many skilful observers studied the coloured prominences. In figs 10, 11, 12, 13, 14, and 15

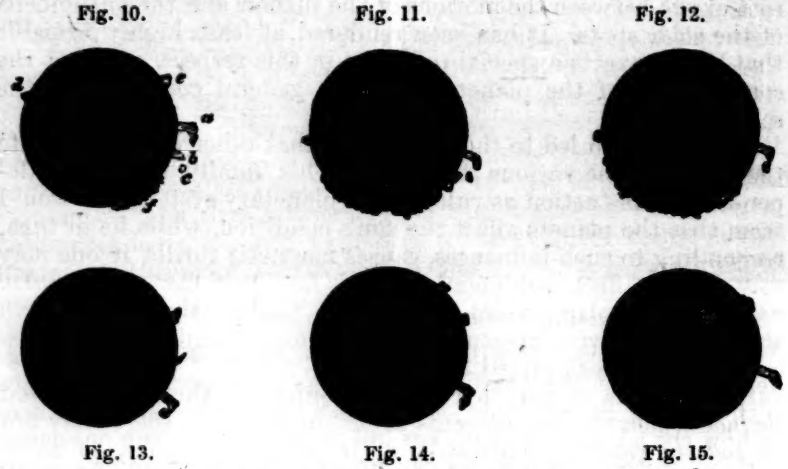


Fig. 10. Fig. 11. Fig. 12.

Fig. 13. Fig. 14. Fig. 15.

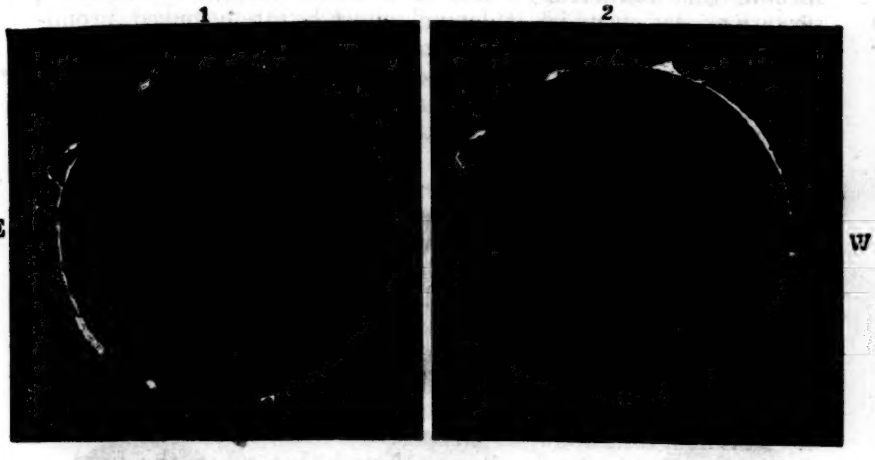
The coloured prominences seen during the eclipse of 1871.

are shown the views taken by the following six observers,—the Astronomer Royal, Mr. Dawes, Mr. Hind, Mr. Lassell, Mr. Gray, and Mr. Stephenson. It will be seen that though they differ in details, they all agree in showing the chief prominence, a high curved object compared by some of the observers to a boomerang, and, by others to a scimetar. Airy, Hind, Dawes, and other eminent observers, agreed in stating that the moon's dark disc was carried athwart the prominences. No doubt could remain, therefore, that these amazing projections belonged to the sun. Now the boomerang prominence showed a height fully equal to the tenth part of the sun's apparent diameter,—that is, this prominence was upwards of 80,000 miles in height!

In the great eclipse of June 1860, another great success was achieved. Mr. De la Rue succeeded in obtaining photographs of the eclipsed sun; and these not only showed the prominences with great distinctness, but also showed the progressive motion of the moon across the prominences. Secchi also succeeded in taking photographs; and, as he was stationed at the Desierto de

las Palmas in the east of Spain, while De la Rue was in the west, at Riva Bellosa, an interval of several minutes elapsed while the moon's shadow was passing from one station to the other. Yet the photographs taken by these two astronomers agreed in nearly every detail, showing that the prominences had either remained wholly without change, or had changed very little during that time. Figs. 16 and 17 represent two of the photographs taken

Fig. 16. Fig. 17.



From photographs of the eclipse of the sun, June, 1860. (De la Rue.)

by Mr. De la Rue. It will be seen how in fig. 16, representing the beginning of the totality, a row of prominences can be seen on the left or eastern side of the sun's disc; while in fig. 17 we see how the advancing moon has obliterated all but the summits of these eastern prominences from view, while prominences on the western side are disclosed.

It will be readily understood that after the eclipse of 1860 no question was any longer entertained as to the truly solar character of the coloured prominences.

It should be noticed here that observations made during the eclipses of 1851 and 1860 had shown that, besides the lofty coloured prominences which extend from 50,000 to 80,000, or even to more than 100,000 miles above the sun's surface, there is an envelope of the coloured matter, completely surrounding the sun and reaching to a height of about four or five thousand miles from his surface. This envelope was termed '*the sierra*' by the Astronomer Royal, to indicate the serrated appearance which its outline commonly presents. Professor Grant and Von Littrow, the Imperial Astronomer of Austria, were among the first to point out the existence of this envelope, and later Leverrier and Secchi were independently led to the same conclusion. In comparatively recent times the envelope was rediscovered, and the observer, unaware of its prior discovery gave a new name to it, calling it the *chromosphere*, or colour sphere (a name for which

some astronomers substitute the more correct form *chromatosphere*).

But in the meantime a discovery had been made which had not only supplied unexpected information as to the structure of the sun, but promised to explain the mystery of the coloured prominences. *Spectrum analysis* had taken its place as a new and most powerful means of astronomical research.

This would clearly not be the place to give a detailed explanation of this wonderful method of research, yet a brief sketch of the principles on which it depends must be attempted.

It will be known to every reader that Newton, by means of the prism, resolved the light of the sun into a rainbow-tinted streak, which is called the solar spectrum. In other words, he showed that the white light of the sun contains light-rays of all the colours of the rainbow.

But when special contrivances are adopted for purifying the solar spectrum, it is found to be crossed by a multitude of dark lines. Some of these lines are well-marked, others faint; at one place many are crowded together, at others there are scarcely any; but at all times the same lines make their appearance.

For a long time this phenomenon remained unexplained, as did also many other facts connected with the analysis of light by means of the prism. For instance, it was found that when, instead of sun light, the light from glowing solid or liquid matter is examined, a rainbow-tinted spectrum without dark lines makes its appearance. Again, it was found that when the light of glowing vapours is examined, a spectrum consisting only of bright lines is seen. It was also noticed that when the light from a glowing solid or liquid passes through vapour before being analysed, dark lines are seen across the rainbow-tinted streak which as we have said forms the spectrum of a glowing body. But these facts appeared disconnected and meaningless.

At length, in 1859, the German physicist Kirchhoff made the important discovery which forms the basis of spectrum analysis. He found that the dark lines in the solar spectrum correspond to the bright lines of the spectra of incandescant vapours. For example, the double orange line which belongs to the spectrum of sodium-vapour, occupies exactly the same place as a well-marked double dark line seen in the orange part of the solar spectrum; and so with many other lines. He proved, in fact, by evidence which there was no controverting, that the presence of dark lines in the solar spectrum indicates that the light of the sun shines through a complex vapourous envelope, and that the vapours in this envelope are the same which (in an incandescent state in the chemist's laboratory) produce the bright-line spectra corresponding to certain of the solar dark lines.

Spectrum analysis, thus at its very birth applied to the analysis of the sun's constitution, shows that the great central luminary of our system consists of an incandescent nucleus shining through the vapours of iron, copper, zinc, cobalt, nickel, magnesium, hydrogen, and other elements. We cannot conclude

that many elements are absent because the spectroscope affords no evidence of their existence; on the contrary, it seems extremely probable that gold and silver, mercury, aluminium, lead, and other elements whose presence in the sun has not yet been demonstrated, nevertheless exist there in vast quantities. It is known that this may well be, and yet no spectroscopic signs of the fact be recognizable.

As an illustration of the way in which the spectroscope has been applied to many questions respecting the sun's constitution, we may mention what has been done in the case of the sun's spots.

When once the general circumstances under which the solar photosphere sends out its light had become known, physicists could deal more satisfactorily with the spots than of old. Knowing that the incandescent matter of the sun shines through a very dense vapourous envelope, we can conceive two ways in which the solar spots may be explained. First, it is possible that where spots are seen, the vapourous envelope may be deeper and denser, and so veil a portion of the solar photosphere; or, secondly, it is possible that from some cause or other the bright solar matter may be broken up, perhaps by an uprush of vapourous matter from beneath.

Now if the first view be the true one, the spectrum of a spot should show the dark lines with increased distinctness. For these lines, being due to the interposition of vapour between the incandescent matter and the observer on earth, must be more distinctly seen when the quantity of the vapour is increased.

On the contrary, if the second view be the true one, if there is a real rupture of the incandescent matter where spots are seen, and vaporous matter underneath is revealed, the spectrum of the spot should be that due to light from glowing vapour,—in other words, this spectrum should consist of a multitude of bright lines.

The experiment was readily tried, and there was no dubiety about the result. When the telescope armed with the spectrum apparatus was directed upon a spot, the solar spectrum was observed in the field of view with its central portion greatly reduced in brillancy. All the dark lines visible in the solar spectrum could be seen, however, in the spectrum of the spot; they also appeared thicker where they crossed the spot-spectrum.

We learn, then, that the spots are dark because vast quantities of vapour, denser and cooler than those covering other parts of the sun's surface are suspended over them. In a similar manner it has been found that the faculæ owe their intense light partly to the fact that they are above the mean level of the solar surface and are thus less completely enveloped in vapour, and partly to the presence of vapour glowing with so great an intensity of heat that the spectrum shows their lines *bright* even on the bright background of rainbow-tinted light.

It will be obvious that this method of observation was precisely what was wanted in order to determine what the coloured prominences might be. Some had supposed that the prominences are vast solar mountains, others that they are masses of cloud

suspended in the solar atmosphere, while a few ventured the suggestion that they may be *vast flames!* The spectroscope could tell at once which of those theories was the true one, or whether any one of them was true.

During the great Indian eclipse of August, 1868, this question was definitely set at rest, not by one observer, but by the concurrent observations of many. Colonel Tennant and Captain Herschel, of England, Rayet and Janssen, of France, all obtained the same general result. The coloured prominences showed the form of spectrum due to glowing vapour—that, is a spectrum of bright lines. Herschel saw three; Tennant, five; Janssen, six; and Rayet saw nine (differences readily explained by the fact that a very slight difference of adjustment of the spectroscope would render the fainter lines invisible); but all agreed that the spectrum consisted only of bright lines. All agreed also that among these lines there was one, at least, of the bright lines belonging to the spectrum of the gas hydrogen.

Thus it was demonstrated that the prominences are masses of glowing hydrogen amidst which other glowing vapours are also present.

But it must not be supposed that the prominences are *flames* in the proper sense of the word,—for instance, that they resemble the flame of a gas light. The spectrum of such a flame is the same rainbow-tinted streak which we get from glowing solid or liquid matter, as any one can in a moment satisfy himself by directing one of Browning's miniature spectroscopes upon a gas flame. The fact is, that in a flame there is combustion, whereas in the prominences the light is not due to combustion. The (carburetted) hydrogen of a gas flame, is entering into chemical combination with oxygen, and there results the process called combustion or burning; but the hydrogen of the prominences is simply glowing with intensity of heat.

But interesting as was this discovery, a more interesting, and in some respects a more important, result flowed directly from it.

It had been known to spectroscopists that if the prominences had a bright line spectrum, there was a possibility of recognising this spectrum even when the sun is not eclipsed, notwithstanding the fact that the illuminated terrestrial atmosphere obliterates the prominences wholly from view, when only telescopic means are employed.

This may be readily explained.

The spectroscope spreads out or distributes the light of the sun into the rainbow-tinted spectrum. It does the same with the light of the illuminated air,—this light being in fact sunlight. Now this is a process by which the light is necessarily weakened or diluted, just in proportion to the extent by which it is spread out. But when the spectroscope deals with the light of a glowing vapour, it shows such and such bright lines, whether its dispersive power is great or small. By increasing the dispersive power these lines are thrown further apart, but they are not weakened.

Suppose that SS', fig 18, represents a part of the sun's edge,

PP', a prominence really existing there, but not discernible by any ordinary telescopic contrivances. Now, suppose that a spectroscope is used, and that it deals with the long narrow space, *s s'*. Then, it throws the part *s' p'* into the ordinary rainbow-tinted spectrum with dark lines, as shown at C D F; it throws the light of the illuminated air over the whole space *s s'*, into a fainter spectrum, also rainbow tinted, and with dark lines, as shown at R V (R being the red end, and V the violet end of the spectrum); but it takes the light from the portion of prominence *p p'*, and throws that light into the bright-line spectrum represented by three white lines in the figure. If only the power of the spectroscope is such that the atmospheric spectrum R V is sufficiently diluted, the bright lines can be seen on this enfeebled spectrum as on a rainbow-tinted background.

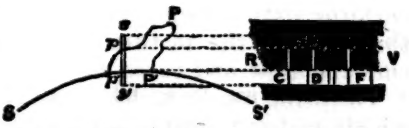


Fig. 18.—Illustrating the way in which the spectroscope shows the bright lines of a prominence.

Dr. Huggins and Mr. Stone (Chief Assistant of the Royal Observatory, at Greenwich), had tried this method without success; Mr. Lockyer had been led by it to the conclusion that the prominences are *not* composed of glowing vapour; and F. Secchi, who had proposed to undertake the inquiry, had been deterred from it by the failure of the others. But the whole aspect of the matter was changed when it had been proved conclusively that the prominences *are* formed of glowing vapour. M. Janssen immediately after he had made this discovery, felt that the bright lines could be seen when the sun was not eclipsed. He cried out, he tells us, "Je reverrai ces lignes-là!" But clouds gathered over the face of the sun soon after totality, and prevented M. Janssen that day from pursuing his idea. On the next he applied it with complete success. "I have, to-day, experienced," he said, "a continuous eclipse."

Owing to some inexplicable delays, the news of this achievement did not reach Europe for two months; and by a singular coincidence it chanced that only a few minutes before M. Janssen's communication was placed in the hands of the Paris Academy, a letter from Dr. De la Rue to that body had announced that Mr. Lockyer had succeeded in seeing the prominence lines. The instrument with which Mr. Lockyer had failed before, had been replaced by a much more powerful one, made expressly for the work by Mr. Browning, the eminent optician. With this instrument the lines were seen on the very first attempt.

It now became possible to tell when there were prominences at any part of the sun's edge. For instance we see from fig. 18, that the height of the lines at C, etc., shows how high the prominence is at *p*: by shifting the spectroscope so that another part of the prominence could be in view, one could tell how high *that* part is, and so on, thus ascertaining the shape of the prominence as by a process of guaging.

But Dr. Huggins presently devised a much better method for observing the prominences with the spectroscope.

By the method just described, only a strip of the prominence is seen at a time. It is as though we had a picture, and two curtains were drawn over it so as nearly to meet, but to leave a thin strip of the picture visible. Dr. Huggins boldly drew the curtains aside and revealed the whole picture at once.

The principle on which this method depends is precisely that which we have already described in explaining fig. 18. We have only to suppose the spectroscopic slit corresponding to the space *s s'*, in fig. 18, thrown open until as large as shown in fig. 19. Here

Fig. 19.—Illustrating the way in which a spectroscope shows a prominence itself.

P P' is supposed to represent a prominence as actually existing on the sun's edge ; but concealed from view by the light of the illuminated air. Then the spectroscope deals with the space included within the open slit precisely as it deals with the space within the slit *s s'* ; only of course much more light comes in through the wide slit, and, therefore, a spectroscope of greater dispersive power will be wanted adequately to dilute it. When this is done, however, we get the three coloured images shown in fig. 19, instead of merely three coloured lines as in fig. 18.* With

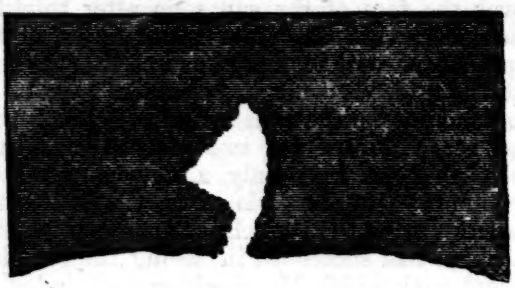


Fig. 20.—The first prominence ever seen by the Huggins-Zöllner method.

Dr. Huggins's spectrum apparatus (specially constructed for studying the stars), this method required to be supplemented by the use of a coloured glass. The red image was viewed through

* The reader must not suppose that all these images are seen at once; figs. 18 and 19 show the spectrum as it actually exists, but the observer has to sweep along it, so to speak, seeing only one part at a time. Hence we hear of an observer studying the red image, or the orange, or indigo image, as the case may be. We do not here pretend, however, to give any account of the details of such observations as are referred to, or described in a general way.

red glass, which cut off a yet further portion of the atmospheric light without affecting the light from the image.*

Fig. 20 represents the first prominence ever seen by this method.

When Mr. Lockyer learnt, on the 27th of February, 1869, that Dr. Huggins had seen the prominences in sunshine by merely

Fig. 21.—A group of solar prominences. (Lockyer.)

widening the slit of the spectroscope, he availed himself of the large dispersive power of the instrument in his possession, to repeat the observation under more favourable conditions. With this instrument, he found that there was no occasion to employ a coloured glass. The prominences could be seen by merely opening the slit. The convenience of this arrangement (as well as the intrinsic importance of Dr. Huggins's discovery) was

* It is necessary to mention that Dr. Huggins was obliged to use this red glass, because his spectroscope had not sufficient dispersive power adequately to reduce the light. It had but *two* prisms. Zöllner had already announced his belief that by increasing the dispersive power the prominences could be seen without the aid of coloured glasses. Huggins was equally aware of this. But with the instrument he was using it was absolutely necessary to protect the eye by a coloured glass. It would be altogether unfair to endeavour to deprive Dr. Huggins of the credit due to him for this discovery,—the most important made in spectroscopy since Kirchhoff's mastery of the secret of the solar spectrum,—on the plea that with more powerful spectroscopic appliances the coloured glass can be dispensed with. That is a mere detail. The general principle of the method is clearly due to Huggins—and to Zöllner who independently enunciated it.

soon manifested in the recognition of the fact, hitherto unsuspected, that the prominences sometimes change rapidly in figure. Figs. 21 and 22 show two views of a wild and fantastic

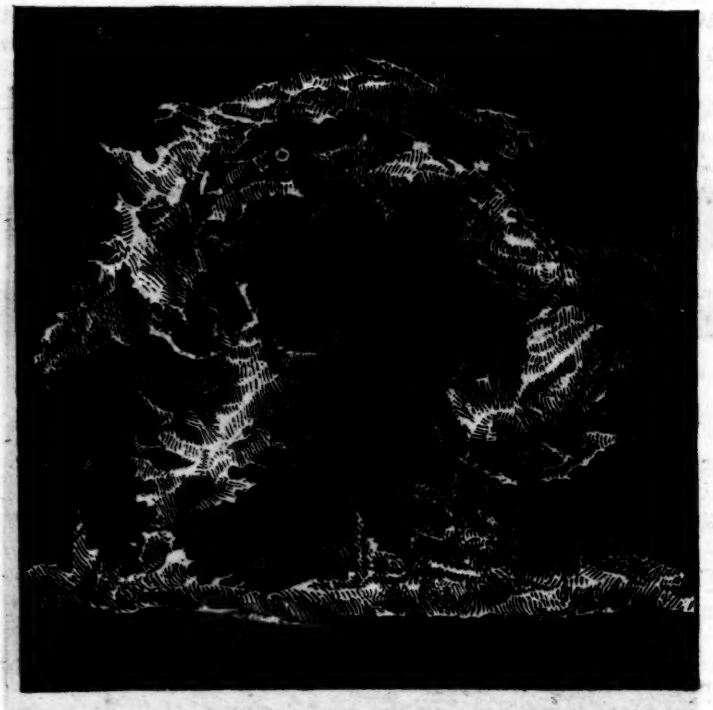


Fig. 22.—The same, ten minutes later.

group of prominences as drawn by Mr. Lockyer, the second ten minutes after the first was completed.

Zöllner, who had independently devised the open slit method, applied it with success so soon as he was provided with proper instruments. Respighi, of Italy, was also very successful in applying the method, drawing profiles of the sun—that is, all the prominences on the solar edge—on successive days, by comparing which the changes taking place in the condition of our great luminary could be readily ascertained.

Before proceeding to consider the results of the further application of this method, we must pause for a moment to dwell on certain results of the original discovery of Janssen and Lockyer.

It was found in the first place that by this method the existence of the sierra, or chromatosphere can be recognised, since short bright lines (corresponding to those in fig. 18) can be seen towards whatever part of the sun's edge the spectroscope is directed.

It was further possible to ascertain the exact position of the bright lines belonging to the prominences, for they could be at

once compared with the dark lines of the solar spectrum seen at one and the same time with them. Thus it was found that two of the lines seen during the Indian eclipse certainly belong to the gas hydrogen. But an orange line which had been supposed to correspond to the orange double line of sodium was found not to agree exactly in position with that line.

But it became possible to recognise other lines, especially in the spectrum of the shallow sierra. The accompanying picture, fig. 23, shows at once how such lines make their appearance, and

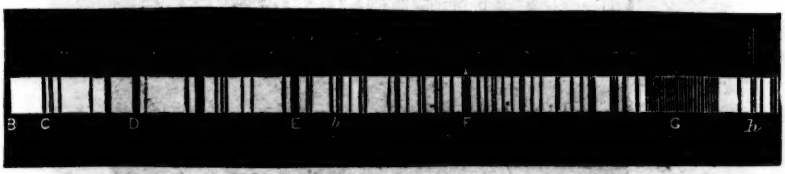


Fig. 23.—Spectrum of the sun's edge, of a prominence and of a sierra.

how their position with respect to the dark lines of the solar spectrum can be at once ascertained. The row of bright lines of unequal length belongs of course to a prominence and to the underlying sierra. Occasionally, however, the number of bright lines obtained from the sierra is even greater, showing that the glowing vapours of many elements are, for the time being, present in that envelope. For instance, Prof. Young, of America, who has been particularly successful in this line of research, has seen at one time upwards of 120 bright lines in the spectrum of the sierra.

Even more interesting is the circumstance that by means of the new method of observation, something may even be inferred as to the condition of the glowing gases forming the prominences and sierra.

It will be observed that the line F of fig. 23 is wider close to the bright spectrum than above. This is indicated on an enlarged scale in fig. 24, where 1 represents a part of the spectrum of the sun's edge, and 2 the part of the spectrum of a prominence which includes the F line. Now this line belongs to hydrogen, and it has been shown by Plucker, Hittorf, and Huggins, that this F line does actually widen in this way when the pressure of the hydrogen is increased. We learn, then, that close to the sun the pressure of the hydrogen is greater (as might be expected) than it is higher up, just as the pressure of our own air is greatest at the sea-level. But even the actual pressure may be inferred with some degree of confidence. Thus, it has been estimated by Wüllner that the pressure at the base of the sierra or at the surface of the sun, is below the pressure of the earth's atmosphere. It would follow that near the summits of the prominences the solar atmosphere must be reduced to an extreme tenuity or rarity.

But besides inferences as to pressure, we may even form an

opinion as to motions in the sierra,—great storms in the solar atmosphere.

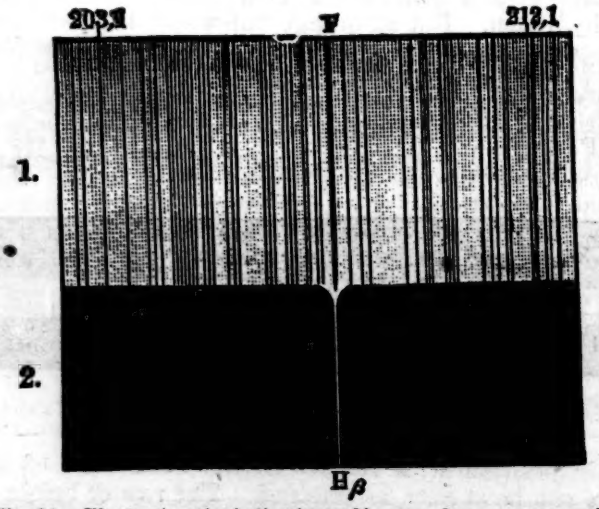


Fig. 24.—Illustrating the indications of increased pressure near the base of the coloured sierra.

It has been shown that if a source of light is moving very swiftly either towards or from the observer, any line, dark or bright, in its spectrum, will undergo a change of place, towards the violet end of the spectrum if the body is approaching, towards the red end if the body is receding. The motions of the body must be exceedingly rapid to produce such an effect,—indeed they must be comparable with the velocity of light, or 192,000 miles per second.

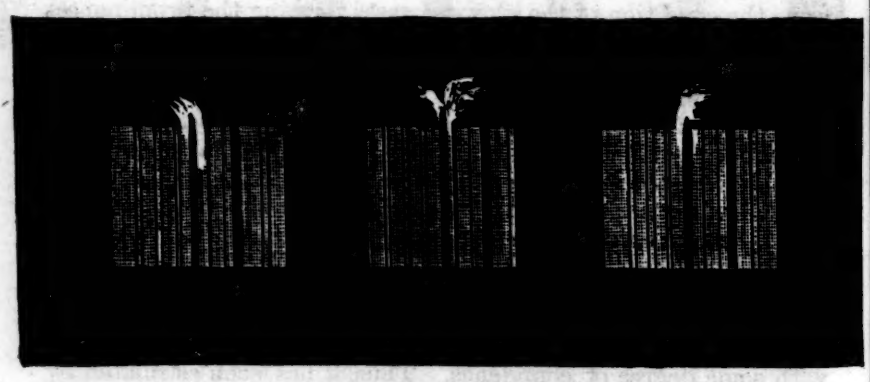


Fig. 25.—Illustrating the spectroscopic indications of solar storms.

Dr. Huggins was the first to apply this principle to determine motions of recess or approach among the celestial bodies, having discovered by its means that the great sun Sirius (a thousand times larger than our own) is travelling away from us at the rate of more than 20 miles per second.

Now, in the case of the prominence bright-lines, it is obvious that the method is very conveniently applicable, for we see from figs. 23 and 24, that if one of the bright lines is at all shifted, the shift must be at once detected, because the corresponding dark line on the solar spectrum remains as a fixed position to measure from. And it is actually found that such changes can be detected. Here, for instance (fig. 25) are three pictures of the short F-line from a part of the sierra, as seen by Mr. Lockyer. The first view show the line displaced towards the violet, showing that the portion of the sierra under examination was moving rapidly towards the observer. The second shows a deflection both towards the red and violet, showing that there were masses moving as well towards as from the eye. In the third we see a deflection towards the red, showing a rapid motion from the eye. From observations such as these, it has been inferred that winds sometimes blow in the glowing solar atmosphere at the inconceivable rate of 120 miles per second.

Fig. 26 exhibits corresponding signs of enormously rapid motion in a lofty prominence.

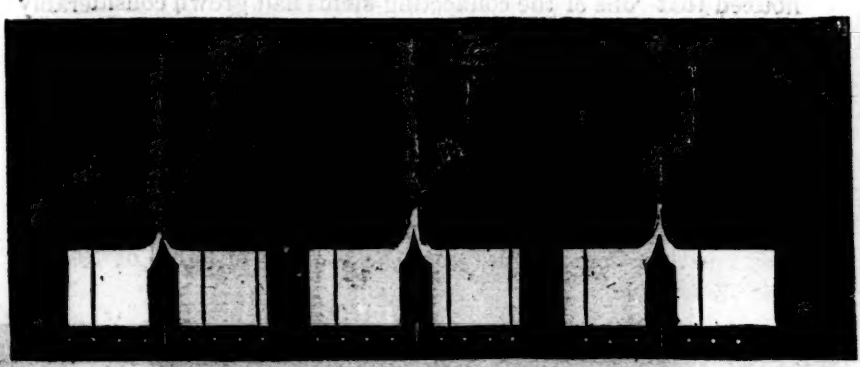


Fig. 26.—Illustrating the spectroscopic signs of rapid motions in tall prominences.

It is only right to mention, however, that somewhat grave doubts have been suggested as to the accuracy of the conclusions which have been drawn from these observations, in consequence of the fact that Professor Young, of America, has seen the F-line thus distorted, while the C line, also belonging to hydrogen, has remained perfectly upright and sharply linear. It is difficult to understand how the two lines thus give opposite indications as to the condition of the hydrogen to which they both belong.

Less open to question are the indications of enormously rapid upward motions in many prominences, at their first formation; for the glowing matter of these prominences has been actually watched as it moved upwards under the very eyes of the observer. The following history of a solar eruption, witnessed by Professor Young, is full of interest:

He had been watching the prominence pictured in fig. 27, on September 7, 1871, at noon. It was 'a long, low, quiet looking

cloud, not very dense or brilliant, nor in any way remarkable but for its size,' floating above the sierra at a height of some

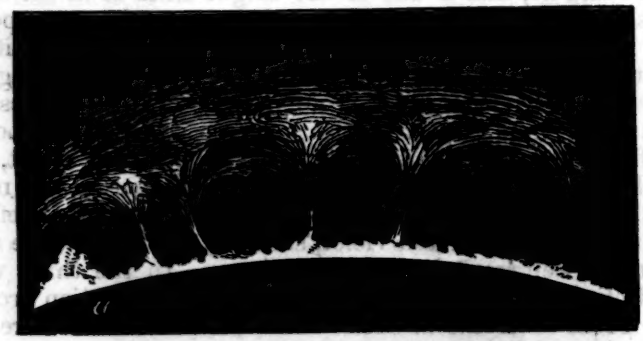


Fig. 27.—Prominence seen by Prof. Young, of America.

15,000 miles, about 100,000 miles long by 54,000 high. At 12·30, when Professor Young was called away for a few minutes, he noticed that 'one of the connecting stems had grown considerably

Fig. 28.—The same region 25 minutes later (12 h. 25m).

brighter, and was curiously bent to one side.' But what was his surprise, when he returned in 25 minutes, to find that, in the mean time, the whole thing had been literally blown to shreds by

some inconceivable uprush from beneath. What Professor Young now saw was the scene presented in fig. 28. Some of the filaments there seen (the least being 4,000 miles long and about 1,000 wide) were travelling upwards with enormous rapidity. Some of them were nearly 100,000 miles high when Young first

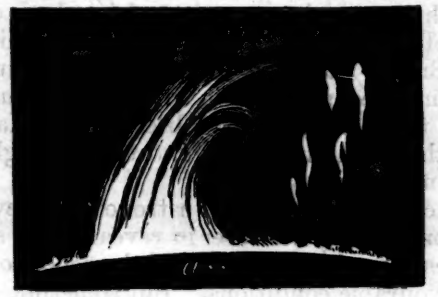


Fig. 29.—The same at 1h. 40m.

looked, and in ten minutes the uppermost were more than 200,000 miles above the solar surface (so that their average rate of motion was at least 166 miles per second). Then gradually the filaments faded away, and the scene changed, first to the aspect depicted in fig. 29, and then to that shown in fig. 30. 'The above phenome-

Fig. 30.—The same at 1h. 55m.

non,' says Professor Young, 'suggested most forcibly the idea of an explosion under the great prominence, acting mainly upwards, but also in all directions outwards, and then, after an interval, followed by a corresponding inrush.'

It remains only to be noticed, before passing to the corona, that an atmospheric envelope yet lower than the sierra has been discovered by Professor Young. It had been suspected by Secchi, from observations made when the sun was not eclipsed. He found that the solar dark lines disappeared close to the very edge of the sun, whence he concluded that a shallow envelope (say four or five hundred miles only in depth), formed of the same vapours which produce the dark lines, exists close to the sun's

surface. But the idea was ridiculed by Mr. Lockyer. However, during the eclipse of December, 1870, Professor Young succeeded in obtaining the spectrum of this very region at the moment when the moon had *just* covered the solar disc. At this moment the disc of light came from the bright atmospheric envelope close to the sun, and Professor Young found that the spectrum of this atmosphere consists of *hundreds* of bright lines. This was amply confirmed during the Indian eclipse of December, 1871. But it has been confirmed in an unexpected way, during an annular eclipse, visible in India in June, 1872, when Mr. Pogson, the Government Observer of Madras, saw the spectrum, with its hundreds on hundreds of bright lines, for no less than seven seconds.

The solar corona, known to astronomers several centuries before the prominences, was later in revealing its secret.

Fig. 31 gives a good general idea of the aspect of the corona as seen under favourable conditions. But sometimes more strongly

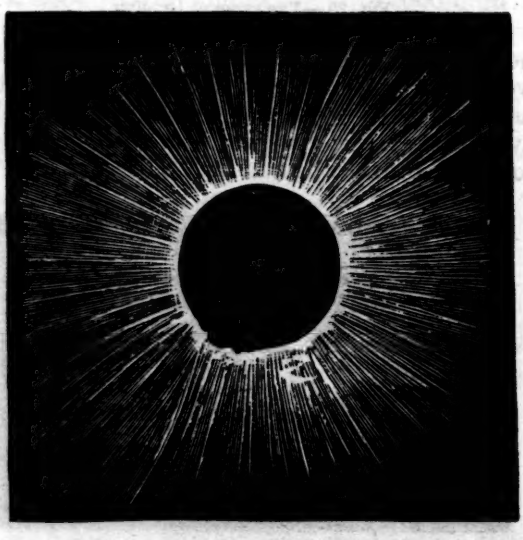


Fig. 31.—The corona as seen during the eclipse of 1842.

marked features have been recognised. Thus, during the eclipse of 1860, the corona presented the appearance depicted in fig. 32; while in the clear skies of Brazil, the French astronomer, Liais, saw the corona as pictured in fig. 33. Great doubts were, however, expressed as to the accuracy of this remarkable picture, until quite recently, its truthfulness has been justified by photographic records of the corona (see the Plate facing p. 400, in Proctor's treatise, 'The Sun').*

The question had been long ago entertained, whether the corona belongs to the sun, or to the moon, or is a mere phe-

* All the figures in this article have been taken from that work, but the views mentioned above are too large for our pages.

nomenon of our own atmosphere; but the opinion had come to be regarded as established that the corona belongs to the sun. In

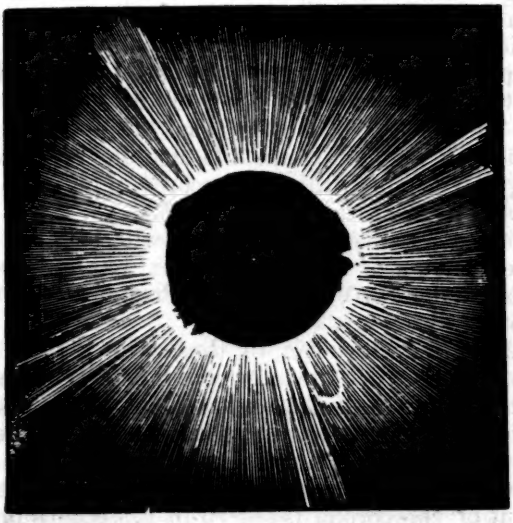


Fig. 32.—The corona as seen during the eclipse of 1860.

1869, however, some of the information which had been obtained respecting the prominences seemed to suggest that the corona

Fig. 33.—The corona during the eclipse of 1858.

cannot be a solar envelope. In particular the minute pressure prevailing near the summits of the prominences seemed to shew that there can be no atmosphere extending very far above the

prominences. Now, the corona, if it be a solar atmosphere must be upwards of a million miles in depth.

Accordingly the opinion was strenuously maintained by some that the corona is a phenomenon of our own air, a mere effect of 'atmospheric glare.'

But during the eclipse of 1869, Profs. Young and Harkness discovered that a portion at least of the corona's luminosity corresponds to the light of glowing gas. One bright green line was identified in an unmistakeable manner with the coronal light. Singularly enough this line accords in position with a line seen in the spectrum of the aurora borealis.

This discovery was disputed by those who believed the corona to be a phenomenon of our atmosphere: but it was confirmed during the eclipse of 1870, not only by Prof. Young himself, but by several other observers.

It was recognized, however, by those who judged the corona to belong to the sun, that the most convincing evidence would be derived either from carefully executed drawings taken at different stations, or better, from photographs of the corona if such could possibly be obtained. In 1860 and 1868, the photographers gave their chief attention to the prominences, though a certain extent of the corona is shewn in F. Secchi's photographs. In 1869, Mr. Whipple, of Shelbyville, Kentucky, took a photo-

Fig. 34.—From a photograph of the solar corona during the eclipse of August, 1869.

graph, of which the accompanying picture, fig. 34, is a representation. But what was chiefly wanted was the means of comparing photographs taken at different stations; moreover, the extent of the corona in those hitherto taken was not sufficient to afford satisfactory information as to the outer parts of the corona.

During the eclipse of December, 1870, a much more decisive success was achieved. Mr. Brothers, at Syracuse, had conceived the happy thought of substituting a photographic camera for

the telescope hitherto employed in the attempt to photograph the corona. Although he had unfavourable weather, yet for eleven seconds before totality ceased the sky cleared, and during eight of those seconds he succeeded in taking a picture of the corona, extending four or five times farther from the sun than in fig. 34. This picture shews well marked peculiarities, and in particular a large V-shaped gap. Now, not only was this V-shaped gap seen by most of the observers of the eclipse; but it is very clearly shewn in a photograph taken at a station near Cadiz, by Mr. Willard, of America; and also in a photograph (one of a series of twelve) taken by Mr. Davis, who managed the photographic department of an expedition headed by Lord Lindsay, and furnished forth at his sole expense.

Thus, all doubts as to the solar nature of the corona were definitely removed from the minds of all who were competent to form an opinion on the subject.

It remains, however, to be mentioned that during the Indian eclipse of December, 1871, two much more complete series of photographs were taken—one series at Bekul, by Mr. Davis (again managing photographic arrangements provided for by the munificence of Lord Lindsay), the other by Col. Tennant. Both series are excellent, the corona shewing to a distance of at least a million miles from the sun, and full of details. Each series consists of five photographs, and the details in all the ten are absolutely identical in shape and position, differing only in clearness and extent according as the photographic conditions were more or less favourable.

During the same eclipse Respighi and Janssen severally achieved most important spectroscopic successes. The former, by a method corresponding to an extension of that illustrated in fig. 19, saw three coloured *images* of the corona, each extending about eight minutes, or a quarter of million of miles from the sun. This demonstrates the gaseity of matter by the sun to that extent at least. The images corresponded to the green line already mentioned, and to the lines of hydrogen. Janssen recognizes the hydrogen lines, and several other bright lines in the spectrum of the corona. But he also saw a faint rainbow-tinted spectrum crossed by dark lines. This proves that a portion of the coronal light is due to the reflection of sunlight by matter near the sun, probably by meteoric masses resembling those which produce the phenomena of falling stars, or by meteors and comets intermixed.

There are also good reasons for believing that the corona is partly due to an eruptive action taking place in the sun. Mr. Proctor has shewn by mathematical calculations that the matter forming the eruption witnessed by Young (figs. 26, 27, 28, and 29) must have been flung from the sun at the rate of fully 500 miles per second. Such an eruptive power would suffice to throw more condensed matter far beyond even the uttermost limits of the corona.

Such are some of the interesting facts revealed during the

recent study of this fascinating subject. It would have been easy, however, to fill four or five volumes, each as large as the present, with the mere record of the observations made during late years by Huggins and Secchi, Young and Janssen, Zöllner, Lockyer, Respighi and Tacchini, and every page would be full of interest. It will be understood, therefore, that the present article is but a sketch of the more salient features of our subject.

We cannot better conclude this essay, than by quoting what Sir John Herschel has told us respecting the sun's position as Fire, Light, and Life of the Solar System :—

'The sun's rays,' he said, 'are the ultimate source of almost every motion which takes place on the surface of the earth. By its heat are produced all winds, and those disturbances in the electric equilibrium of the atmosphere which give rise to the phenomena of lightning, and probably also to terrestrial action and the aurora. By their vivifying action vegetables are enabled to draw support from inorganic matter, and become in their turn the support of animals and man, and the source of those great deposits of dynamical efficiency which are laid up for human use in our coal strata.* By them the waters of the sea are made to circulate in vapour through the air, and irrigate the land, producing springs and rivers. By them are produced all disturbances of the chemical equilibrium of the elements of nature, which by a series of compositions and decompositions give rise to new products, and originate a transfer of materials. Even the slow degradation of the solid constituents of the surface, in which its chief geological change consists, is almost entirely due—on the one hand to the abrasion of wind or rain and the alternation of heat and frost; on the other, to the continual beating of sea-waves agitated by winds, the results of solar radiation. Tidal action (itself partly due to the sun's agency) exercises here a comparatively slight influence. The effect of oceanic currents (mainly originating in that influence), though slight in abrasion, is powerful in diffusing and transporting the matter abraded; and when we consider the immense transfer of matter so produced, the increase of pressure over large spaces in the bed of the ocean, and the diminution over corresponding portions of the land, we are not at a loss to perceive how the elastic force of subterranean fires, thus repressed on the one hand and released on the other, may break forth in points where the resistance is barely adequate to their retention, and thus bring the phenomena of even volcanic activity under the general law of solar influence."

R. A. Proctor, B.A.

* This remark is commonly, but erroneously, attributed to the celebrated engineer, Stephenson. It appears in the first edition (1833) of Herschel's 'Outlines of Astronomy.'

THE LIGHTHOUSE SYSTEM OF THE BRITISH ISLANDS.

THE greatest maritime nation in the world ought to possess the most effective means for affording protection to ships sailing near the coast, and in and out of harbours. Lighthouses, lightships, lifeboats, charts founded on well conducted surveys, sea-marks, buoys, beacons, are the chief of these means. Whether England, has done all that might and ought to have been done in this way is a question that need not be discussed here; suffice it to say, that on one head—lighthouses—the arrangements are full of interest, and deserve to be much more generally known than they are. The official control, the engineering construction, the optical illumination, and the practical duties, may conveniently be treated in succession.

LIGHTHOUSE OWNERSHIP AND CONTROL.

The management of British and Irish lighthouses is marked by much want of system. In all the maritime countries of the continent some one governmental department, usually that of marine, holds undisputed mastership over the coast-lights, and has a clear knowledge of the source whence supplies are to be obtained for defraying the expenses. In England, notwithstanding many improvements introduced during the last twenty years, there is still much confusion and clashing of powers, and an inordinate amount of official correspondence. Until we recognize the relative positions of the Brethren of the Trinity House, the Commissioners of Northern Lighthouses, the Dublin Ballast Board, and the Board of Trade, we shall not have a clear idea of the system adopted—if system it may be called.

The Trinty House.—This body, the full lengthy designation of which is 'The Master, Wardens, and Assistants of the Guild, Fraternity, or Brotherhood of the most glorious and undivided Trinity, and of St. Clement in the parish of Deptford Strond, in the county of Kent,' was originally an association of pilots, established in the reign of Henry VII; but by a charter granted by Henry VIII, further powers were acquired for improving in various ways the plans necessary for the safety of navigation. Until the reign of Elizabeth the privileges of the Trinity House related chiefly to pilotage; but in 1565 an Act of Parliament was passed empowering them 'to preserve ancient sea-marks, and to erect beacons, marks, and signs for the sea.' In the reign of James I, a question arose whether this gave an exclusive right to (what we should now call) lighthouses; the Trinity House contended for the affirmative; the King (who was ready to bestow any patent privilege upon any body for a sufficient honorarium), asserted the negative. The Privy Council, on the advice of the Attorney-General, Sir Francis Bacon, decided for the Trinity House in 1617. A subsequent Order in Council

however, issued when Sir Francis had become Lord Bacon and Lord Keeper, gave the Crown power to grant licences or patents to other persons for the erection and maintenance of lighthouses, and for the levying of tolls on shipping. The King did not fail to take advantage of this privilege. If a speculator chose to incur the cost of building a lighthouse, in order to realise a handsome profit out of the dues the King sold him permission to do so, professedly whenever and wherever the Trinity House failed to meet the wants of mariners.

The Trinity House used its power slowly. Until 1680 this body did not construct or own lighthouses; such structures as there were had been built by private individuals under patents from the Crown. In the year just named the Trinity House entered the lists as a lighthouse owner; and from that day to this the number of lighthouses belonging to the body has steadily increased. The general powers acquired by the board, in virtue of many charters and statutes, were these two—to indicate to mariners the precise position of sunken rocks, shoals, or sand-banks in the paths of ships around our coasts; and to mark the entrances of ports and harbours. Lighthouses form only one among many contrivances to this end; there must also be light ships, floating lights of other kinds, buoys, beacons, and other fixed and floating marks. The owners of private lighthouses in bygone days collected their dues in such a way as greatly to hamper maritime commerce; but by Acts of Parliament passed at various times these private light-dues have been mostly bought up and placed under the same control as the ownership of the public lights. The Act of 1836 made provision for vesting the whole of the lighthouses of England and Wales in the Trinity House, as well as giving that corporation some controlling power over the Scotch and Irish lighthouses (presently to be noticed). The Crown had a pecuniary interest in some of the lighthouses; this interest was sold to the Trinity House for £300,000. The Act empowered this body to buy up in like manner all the lighthouses belonging to private individuals; the owners were compelled to sell, but the price was settled by fair arbitration. By the year 1842 the Trinity House had in this way acquired ownership of the Harwich, Dungeness, Orford, Winterton, Hunstanton, Smalls, Longships, Skerries, Spurn, and Tynemouth lighthouses, previously in private hands; the cost was about £1,200,000 which has been in course of gradual payment out of the Trinity House revenues. Before the passing of the Act of 1836, the Trinity House charged from one penny to one-sixth of a penny per ton on every ship every time that it passed a lighthouse. By this Act the toll was made uniformly a halfpenny per ton, except for the Bell Rock Lighthouse for which one penny was charged; foreign vessels were to pay double the British rate; royal ships, fishing vessels, and ships in ballast were declared exempt from toll. Where lighthouses are still owned by corporate or local bodies it is for the convenience of the respective localities; and the charges for

maintenance are defrayed out of the general revenues of the local corporation or company to which they belong.

The Trinity House, then, manages all the general or public lighthouses of England and Wales—builds new structures where required, decides on the mode of illumination, examines all suggested plans for improvements, employs officers and servants to carry out details, defrays the cost out of dues collected in various ways from shipowners, and is responsible in regard to any surplus. The financial part of this system is complicated by the possession and exercise of other powers, viz., superintending the pilotage of English ports, and monopolising the sale of ballast in the port of London. A further complication arises from the fact that the Trinity House is bound, by its early charters, to appropriate a portion of its revenues to certain specified charitable purposes. The expenditure is large. In a recent year it reached nearly to 200,000*l.*; this involved 20,000*l.* for new works, 40,000*l.* for maintaining lighthouses, 50,000*l.* for maintaining floating-lights, 12,000*l.* for maintaining buoys and beacons, 50,000*l.* for the year's expenses of cruising vessels, tenders, storehouses, &c., and the remainder in various other ways.

The Elder Brethren of the Trinity House consist chiefly of retired captains in the Merchant service. In the latest Parliamentary return on this subject, the Elder Brethren comprise thirteen captains retired from the Merchant Service, one retired from the East India Company's service, a vice-admiral and a retired captain of the Royal Navy, and ten honorary or ornamental members, elected out of compliment, and not expected to render much active help. These ten comprise H.R.H. the Prince of Wales, H.R.H. the Duke of Edinburgh, and the well-known political names of Russell, Pakington, Somerset, Milner Gibson, Gladstone, Argyll, Northcote, and Disraeli. Possibly a later list would include an additional name or two. The Brethren are paid out of the general revenue, somewhere about 350*l.* a year each for those who do the actual work. They draft themselves into committees and sub-committees, for the despatch of business; one of these takes cognizance of all lighthouse matters.

The Scotch Board.—This will be a convenient abbreviation of the 'Commissioners for Northern Lights.' Until 1798 the Trinity House exercised control, such as it was, over the lighthouses in the northern as well as the southern half of the island; but in that year, by special Act of Parliament, a Board of Commissioners was appointed having control around the Scottish coasts and the Isle of Man. This is a peculiar corporation. The commissioners receive no salary; they are either ex-officio (doing very little in the matter), or gentlemen who have the means and inclination to bestow a small portion of time to the subject. The ex-officio members are the Lord Advocate and the Solicitor-General for Scotland, the chief municipal authority (whether Lord Provost, Provost, or Senior Bailie) of Edinburgh, Glasgow, Aberdeen, Inverness, Campbelltown, Dundee, Leith, and Greenock, and the Sheriffs of the maritime counties of Scotland.

Almost without exception, they are either merchants or lawyers. Owing to their non-acquaintance with nautical matters they are subject in some degree to guidance by the Trinity House, which consists mostly of nautical men; in the scientific details of illumination they fortify their plans by obtaining the opinion of eminent chemists and physicists; while, in engineering and practical management they have had, for a long series of years, the aid of the Stevensons, a family as closely associated with lighthouse engineering in Scotland as the Stephenson family has been with railway engineering in England. Sections or committees of the commissioners meet once a fortnight at Edinburgh, to transact the regular business; and once a year an official voyage of inspection is made to most if not all the lighthouses on the Scottish coasts.*

The Irish Board.—This we will adopt as a convenient designation for the 'Corporation for Preserving and Improving the Port of Dublin,' a body more usually known as the 'Dublin Ballast Board.' In 1786, when this Board was incorporated, it received extensive powers in regard to Dublin Harbour, and the rivers flowing into it; to those powers was added the control of all the Irish lighthouses, by an Act passed in 1810. The services of the members, like those of the Scotch Board, are rendered gratuitously. Although many of the members are connected with mercantile pursuits few have any personal acquaintance with nautical, engineering, or scientific matters. At present they are about twenty in number; the Lord Mayor and the High Sheriff of Dublin are members *ex-officio*; three are aldermen of the same city; others are members of the Chamber of Commerce, directors of railways, directors of steam-packet companies, bankers, and merchants. This Ballast Board of Dublin received, as we have said, the addition to its powers which constitutes it a lighthouse commission, controlling 'the erecting, building, rebuilding, repairing, and maintaining of lighthouses on and around the coast of Ireland.' As in the case of the Northern Commissioners, those of Ireland are in some slight degree under the Trinity House in matters where the experience of nautical men would be wanted.

The Board of Trade.—Until 1854, the central government had no direct control over the lighthouse system. The three bodies above described exercised their respective functions and levied tolls on shipping to defray the cost. The tolls varied from one penny down to a sixteenth of a penny per ton of shipping, paid by those who were, or were supposed to be, benefited by the protection afforded by the lights to the ships. The Trinity House revenues, after meeting all current expenses, paid off a debt which had accumulated for the purchase of private lights, and contributed to certain chartered benevolent purposes; but the

* An excellent idea of the nature of the Scotch lighthouse system, both material and personal, may be derived from the perusal of three articles in 'Chambers's Journal' for 1866. They were written by Mr. William Chambers, at that time Lord Provost of Edinburgh, and relate to the annual tour of inspection by the Commissioners, of whom he was one. The three articles have since been collected, to form No. 91 of a new edition of 'Chambers's Miscellany.'

Board professed to act on the plan of keeping down the dues as far as practicable, and also sought to make them discriminative, charging the highest toll for those lights which rendered most service.

A great change was made in 1854, by the passing of the 'Merchant Shipping Act,' which consolidated all the various statutes relating to ships and seamen engaged in commerce, as distinguished from the Royal Navy. A new department of the Board of Trade was created with an extensive controlling power in such matters. All the light dues collected for the services rendered by the public or general lighthouses on all the coasts of the United Kingdom were to go into one common fund, called the Mercantile Marine Fund, together with moneys derived from other sources. The Board of Trade manages this fund, and regulates and adjusts occasionally the table of dues. It authorises also the construction of new lighthouses and similar works, when the recommendations of any of the Lighthouse Boards have been made and approved. No important change is made by any of the three boards without obtaining the sanction of the Board of Trade; nor does the latter initiate such changes without obtaining the opinion of the board which is to carry them out. This arrangement was well intended, in order that nothing should be done hastily and crudely; but it leads to a sad waste of time and an enormous amount of letter writing. If a remote lighthouse in the north of Scotland thinks that large oil tanks would be better than small oil kegs, or *vice versâ*, not only must the Scotch Board at Edinburgh be consulted, but this board must consult the Board of Trade (because a new kind of expenditure is involved); and very likely the Board of Trade would ask the opinion of the Trinity House and the Irish Board before deciding; a cross-fire of missives between London, Edinburgh, and Dublin would be maintained, perhaps for weeks, and the tank or kegs up far in the north must wait patiently for an answer. If the Dublin Board wishes to try by experiment whether gas is suited for lighthouse illumination; if the Trinity House would try the electric light on some part of the English or Welsh coast; if the Scotch Board wishes to experiment on lamps suited for paraffin oil, as possible substitutes for colza oil lamps—none of these things can be done without the sanction of the Board of Trade. This Board does not really wish to enter into all the minutiæ of lighthouse management, but the Act stipulates that all expenditure by the three lighthouse boards must be approved by the Board of Trade, and if any portion of this expenditure is incurred for new or untried plans investigation of some kind precedes approval.

Much dissatisfaction having been publicly expressed concerning the practical working of the lighthouse system a Royal Commission was appointed in 1858 to investigate and report upon the whole subject. It was not until 1861 that the results were made public in Parliamentary papers of voluminous bulk. Among other valuable information given was a list of all the light-

houses existing on our coasts in 1860. A summary is here presented:—

	Shore Lights.			Floating Lights.	Total.
	General.	Local.	Total.		
England and Wales	82	89	171	41	212
Scotland	46	67	113	1	114
Ireland	69	4	73	5	78
	197	160	357	47	404

Those here called *general* lights were those belonging to the English, Scotch, and Irish Lighthouse Boards respectively; while the *local* lights belonged to harbour commissioners, dock trustees, dock companies, river commissioners, pier trustees and commissioners, conservancy boards, town councils, and railway companies. The coast line of the United Kingdom was estimated at—England and Wales, 2,405 miles; Scotland, 4,460; Ireland, 2,518; making a total of 9,383 miles. If lighthouses and floating-lights or lightships were included, this gave one of those safeguards to about every 23 miles of coast on an average; but at some dangerous localities they were of course much more thickly congregated. As concerns France, with a coast line of 2,760 miles, the system is better than that of England in this respect: that the light of every lighthouse crosses that of the one next adjacent, so that the whole forms a kind of chain of lights; but inferences cannot be safely drawn from this fact, seeing that the French coasts are much less indented by firths, headlands, bays, promontories, and estuaries than those of our own country.

When the Commissioners had examined the whole subject submitted to their consideration they recommended a central and uniform system of lighthouse management for the United Kingdom. A new body was to be formed, called the 'Trinity Committee for Lights.' Its members would comprise four elected by the Trinity House, one each to represent Scotland, Ireland, and the Board of Trade, together with the Astronomer Royal, a scientific man nominated by the Government, the Hydrographer to the Admiralty, and the Comptroller-General of the Coast-Guard. The elected members would be paid by the Government for the whole of their time; the *ex-officio* members would receive additions to the salaries derived from other services. The committee, or board, would hold weekly meetings, to regulate the lighthouse arrangements for the whole of the United Kingdom. The Royal Society, after an annual visit of inspection, would report on the efficiency of the system in a scientific point of view; while the Board of Trade or the Admiralty, as might be deemed best, would represent the committee in Parliament, and procure a supply in the estimates, but without exercising direct control in other ways.

This recommendation has never been acted upon. The three kingdoms are still under three distinct boards or bodies of commissioners, all under the supervision of the Board of Trade. Vessels in ballast, or not carrying freight, pay no light dues ; but all others are taxed in proportions depending partly on the size of the ship and partly on the importance of the lighthouse by which it is benefited. British ships pay about 70 per cent., foreign about 30, of the total lighthouse dues for the United Kingdom. In 1869, Liverpool and other commercial ports memorialised the Government, recommending that these dues should be abolished altogether, and the entire expense of the lighthouse system borne out of the general taxation of the country. This is, of course, an easy way of shifting the burden from the shoulders of those who directly benefit by the protection of their ships by lighthouses, and throwing it on the public generally ; but like all propositions of analogous character it requires to be handled with caution, seeing that it would involve a direct increase of taxation.

Constructive features of Lighthouses.

Such, then, being a history, succinctly treated, of the steps by which the proprietorship and control of the lighthouses of the United Kingdom have been brought to their present position, we proceed next to notice the lighthouses themselves as works of engineering and constructive skill, in some instances illustrating inventive genius and indomitable perseverance in a high degree.

The engineering of our lighthouses presents this point of similarity to their management—it has grown up by experience, without much systematic plan. According to the governing authority, the spot selected, the funds available, and the kind of illumination adopted, so have the buildings varied. A tower with a strong light at or near the top—this is a lighthouse ; but as the tower has sometimes to be built on a spot almost inaccessible, washed by furious waves in stormy weather, the construction often taxes the powers of the engineer and his men to the utmost. The lighthouses of Girdleness, Buchanness, Ardnamurchan, and several others, cost the Northern Board £10,000 to £12,000 each ; but the Scotch average has been about £9,000, and that of England somewhat less. There are several lighthouses, however, so exceptional in position, and so encompassed by formidable difficulties, that they have been far more expensive, and have demanded the highest development of engineering skill. Brief descriptions of a few famous examples will give some idea of the obstacles presented and triumphs achieved.

Eddystone Lighthouse.—Smeaton's beautiful structure bears some such relation to lighthouses as Robert Stephenson's "Rocket" bore to locomotives : it inaugurated a new system. About eleven miles out at sea from the Devonshire Coast, near Plymouth Harbour, is a rock or rocky islet called the *Eddystone*, which lies nearly in the path of ships approaching from the south-west. So many wrecks occurred on this rock in the seven-

teenth century, that the desirability of a light to warn mariners to keep clear of that perilous locality, was recognised by every one. In 1697 Mr. Winstanley ventured upon the formidable work of setting up such a light. He built a tower, or rather a house, to contain a permanent light; he surmounted numerous difficulties gallantly, if not skilfully; and had the satisfaction of seeing it completed in the year 1700. But during a terrible storm on a November night in 1703 the fragile wooden structure was blown to atoms, consigning to the waves Mr. Winstanley himself and the workmen there at the time. In 1706 an Act of Parliament was passed empowering the lessee of the rock to build another lighthouse and to levy tolls on shipping sufficient to defray the cost and realize a profit. Mr. Rudyard built this second structure which answered its purpose moderately well until destroyed by fire in 1755. Then it was that Smeaton was called in to construct a building at once storm-proof and fire-proof; and the present famous Eddystone Lighthouse testifies to his mastery of the subject—the tempests of a whole century having left the stonework almost wholly unscathed. The lighthouse is a circular stone tower, varying in its diameter something like the trunk of a tree, diminishing from the base up to a certain height, and then swelling out again. The hollow curved outline thus produced is recognised by artists as being graceful and beautiful, while engineers and men of science have demonstrated that this mode of construction gives the maximum of strength with the minimum of material. The granite blocks of the lowest course of masonry are so dovetailed and tenoned into the rock beneath that a dislodgement is hardly possible; and each upper course is similarly locked into those above and below it, while every block is fastened in various ways to those by the side of it. The base of the tower is about 27 feet in diameter, and the whole height from the foundation 86 feet; owing to the curving in of the sides, the diameter at one part is only 15 feet. The upper part of the masonry is finished with a kind of cornice, and is surmounted by a lantern having a gallery and balustrade around it. Within the hollow part of the tower (which is solid for 25 feet up from the foundation) are small rooms for the keepers, and a staircase and ladders for ascending to the lantern. The exterior of the tower exhibits one small door and a few small windows, all built to resist the stormy waves.

Bell Rock Lighthouse.—About eleven miles south-east of Arbroath, near the estuary of the Tay, is an islet called the Bell Rock or Inch Cape, rather more than a mile in length. Being partly visible and partly submerged, and the submerged portion varying in area every hour according to the state of the tide, it used to be very dangerous to the shipping. The monks of Arbroath, according to tradition, placed a bell on it, so hung as to ring continually, and thus give mariners warning. On this spot Robert Stevenson commenced and finished a lighthouse, taking Smeaton's Eddystone as a guide in most particulars, but introducing original details in various parts. Owing to the

small number of hours each day that the works could be carried on great difficulties had to be surmounted by Stevenson. An Act of Parliament being obtained in 1806 he commenced operations soon afterwards, made arrangements for dressing or squaring the blocks of masonry, fitted up a sloop to go to and fro between the harbour and the rock, and drilled a body of picked men to be ready for any emergency. The rock was visited at every low tide, or as frequently as daylight and weather permitted, and operations continued until the approaching flood warned the men to depart to a light-vessel about two miles off, where they were quartered. They were only able to remain and work on the rock 133 hours in the year 1807, during which time they prepared the surface of the rock for the reception of the masonry, and built a temporary wooden house on beams. The first stone was laid in July, 1808, during which year the men spent 265 hours on the rock. In July, 1809, the masonry reached a height that enabled the men to work out of the water (which they had been little able to do before), and the solid mass of structure was carried to a height of 30 feet by the close of the season. In 1810 the men were able to live and sleep in the beacon-house on the rock, thereby economising much time, and avoiding disagreeable and often dangerous boating. Mr. Stevenson himself lived for weeks together in this wooden tenement, personally controlling and directing the workmen. The last stone was laid in July, and the finishing operations were well advanced by the time the season closed. In 1811 all was complete, and the Bell Rock Lighthouse presented itself as a worthy sequel to Smeaton's Eddystone. It is a circular building, 42 feet diameter at the base, and 13 at the top; the masonry is 100 feet high, and the lantern above it increases the height to 115 feet. The entrance door, high up above the base, is reached either by a kind of trap ladder, or in a chair hoisted up by a movable crane. Circular stairs lead up to the store rooms, living rooms, and lanterns; the windows, small in size, have double sash frames, glazed with thick plate-glass, and protected with storm shutters of timber. The lantern or light-room is octagonal, 12 feet across by 15 feet high; it is framed with cast iron and glazed with thick plate-glass. Stevenson improved upon all previous modes of illumination by providing a revolving red and white light, the nature of which will be explained in a later page. Stormy waves have dashed against the Bell Rock, and have raged over it to a height of even 70 feet above the lantern; but it has nobly withstood all such assaults for sixty years.

Skerryvore Lighthouse.—No other lighthouse in the United Kingdom has involved so many difficulties as that at Skerryvore, about 24 miles out seaward from the island of Iona, one of the Hebrides. Here, in a storm-driven region, is a reef of rocks eight or ten miles in length, the terror of mariners, as it lies directly in the path of ships voyaging round the west of Scotland. The nearest land is the small wild island of Tiree, about 10 miles distant. The chief rock on the reef is called Skerryvore,

and the question arose whether a lighthouse could be built there. The waves of the Atlantic dash up against the rock with such violence as to render any approach by man or boat almost impossible; while the distance of any inhabited spot, and of any quarries whence stone could be obtained, enhanced the difficulties of any engineering operations in that region. As long ago as 1804 Mr. R. Stevenson, as engineer to the Northern Board, visited the Skerryvore; but his report was too formidable to encourage the adoption of any definite plan. In 1814 he visited it again, in company with Sir Walter Scott and some members of the Lighthouse Board. Twenty years more elapsed, and still nothing was done; until at length, in 1834, the Board ordered surveys and plans to be made by Mr. Alan Stevenson, who had succeeded his father as engineer of northern lighthouses. So multiplied were the obstacles, so many the considerations and consultations necessary, that operations were not actually commenced on the rock till 1838. A quarry was worked at the island of Mull, whence an ample stock of pale red granite was obtained—a free gift from the late Duke of Argyll; while workshops were established at Hynish, on 'Wild Tyree,' where the blocks of stone were dressed and brought to scrupulously calculated size and shape. On the rock itself men worked for a few hours in the summer months, on such days as tide and weather permitted, sometimes kept away for weeks by tumultuous waves. They had to prepare a foundation by levelling the rock itself, to erect a wooden shed for a shelter and a tool-house, and to lay the courses of masonry by slow degrees. On one occasion this barrack was blown away by a furious storm, and the men placed in great peril. For six long years did the operations continue; until at length, on the 1st of February, 1844, the commissioners and their engineer had the satisfaction of seeing a vivid beam flashing from the Skerryvore Lighthouse, with the further pleasure of knowing that not a life had been lost during these protracted struggles against difficulties. This lighthouse is the loftiest and grandest in the kingdom, perhaps in the world. It is 138½ feet high, 42 feet in diameter at the base, and 16 at the top; the foundation is sunk 15 inches into the rock; the column is solid to the height of 26 feet, up to which level there are 2,000 tons of masonry. Immediately above this level the hollow interior, 12 feet in diameter, begins; the granite wall diminishing from 9½ feet thick at the bottom to 2 feet at the top. As at the Eddystone and at Bell Rock, the separate blocks of masonry are so interlocked as to constitute them virtually a monolith, one mass of stone. Nine stout granite partitions or floors cross the interior, dividing it into ten stories, which are reached by small spiral stairs. The rooms thus formed are used as coal and oil stores, water stores, provision stores, workshops, living and sleeping rooms. At the summit is the all-important lantern or light-room, in which is a revolving light, consisting of a lamp of four wicks, around which eight large annular lenses revolve—

throwing a concentrated beam of light out to a distance of 18 miles. The cost of this noble structure was about 85,000*l.*

Wolf Rock Lighthouse.—About midway between the Scilly Islands and the Lizard promontory in Cornwall, and lying nearly in the path of ships sailing from the English Channel to Ireland, or round the Land's End to the Bristol Channel on the west coast, is an obstruction known as the Wolf Rock. Being submerged at high tide and surrounded by deep water, its vicinity cannot readily be determined by soundings; and hence its great peril to ships on dark nights or foggy weather. After the discussion and rejection of many plans the Trinity Board determined in 1840 to erect a beacon on that spot. This was done with much tedious labour, at a cost of 10,000*l.* As, however, the beacon could only be seen during the day, a regular lighthouse was, after many years' delay, resolved upon. Mr. Douglass, engineer to the Board, commenced operations in 1862, and laid the first stone in 1864; the last stone was laid in 1869, and the lighthouse finished in the following year. The nearest point of the mainland is the Land's End, about 9 miles distance; but the nearest convenient spot for preparing the masonry (Cornish granite) was at Penzance, a distance of 15 miles. Hence the voyages to and fro were numerous, tedious, and dangerous. So nearly is the rock submerged that it is exposed only two or three hours each day; and the substance being intensely hard felspathic porphyry the labour and difficulty encountered by the workmen in preparing the foundation were great. The voyages to and fro, the sousings and discomfort of the workmen, the limitation of the hours of work by untoward weather, the mode of dressing and fitting the stones, and the routine of masonry operations when the materials had once reached the rock—so much resembled the incidents of the Eddystone, Bell Rock, and Skerryvore, as to render much detail unnecessary here. The lighthouse is 116 feet high, 42 feet diameter at the base, and 17 near the top; it is solid to a height of 40 feet from the base, and above this level the thickness of the wall varies from $7\frac{3}{4}$ feet to $2\frac{1}{2}$ feet. The structure contains 3,300 tons of masonry. The light is a First Order revolving dioptric light (the nature of which will be described presently), exhibiting alternately red and white flashes. We need not be surprised at learning that this lighthouse cost 63,000*l.*, when we find that the workmen could only effect 266 landings in eight years, and remained only 1,810 hours on the rock altogether.

Among other famous sea-girt lighthouses, each perched on a storm-beaten bit of rock in the ocean, may be named the Longships, the Bishop's Rock, the Smalls Rock, the Ve Skerries off the Shetland Islands, the Dhu Heartach off Iona, and the Chickens Rock off the Isle of Man—every one the result of an indomitable struggle against difficulties.

Iron Lighthouses.—These have not yet, we believe, been adopted in the United Kingdom; but there is reason to suppose that they will be found advantageous in some situations—judging

from experience already obtained. Sir Samuel Brown, engineer of many suspension bridges and piers, proposed to build an iron lighthouse on the Wolf Rock (a locality just noticed). He suggested that it should be 90 feet high, 14 feet in diameter at the bottom, and 4 at the smallest part, some way below the top. The structure was to be built up of separate truncated conical pieces of cast-iron, fitting one on another something like the joints of a telescope. Above the column was to be a keeper's house, surrounded by an open gallery, and surmounted by the lanterns. Within the body of the column were to be the sleeping berths for the keepers, and store-rooms for provisions, coals, water, and oil. Sir Samuel, who had had much experience in planning iron structures, considered that his proposed lighthouse would present many advantages; that the expense would be very much smaller than that of a stone lighthouse; that the time consumed in erecting it would be much shorter; that, by the slenderness of its shaft, it would not present such a wide surface for the sea to act against; that it would have but eight joints from the ground to the lanterns, while a stone structure would have many thousands; and that the whole circumference of each stage or story being cast in one piece, it would be capable of resisting enormous pressure. This proposal was not acted on. We may regret the fact, notwithstanding the recent construction of Mr. Douglass's fine masonry lighthouse at that spot; for it would have afforded engineers an opportunity of developing those qualities in iron structures which have been so satisfactorily tested in various works of magnitude. Mr. Alexander Gordon afterwards put the matter to the proof in another locality. He constructed an iron lighthouse for an unhealthy lagoon in Jamaica on a spot so beset with difficulties that it was computed six years of time and 20,000*l.* of money would be consumed in erecting a stone lighthouse there. It was finished, and the light exhibited, in a year and a half after the first decision was arrived at; the expense was about 4,000*l.* Instead of adopting Sir Samuel Brown's plan of a few large castings of large size, Mr. Gordon constructed his lighthouse of nine tiers of cast-iron plates, each 10 feet high, 4 to 5 feet wide, and 1 inch thick. These plates, cast with flanges all round their inner edges, admitted of being fastened together with nut-and-screw bolts, caulked with iron cement. Eleven plates formed the circumference at the base of the tower, nine at the top; the diameter lessening from 18½ feet to 11 feet. The interior of the tower, to about one-fourth of its height, was filled in solid with masonry and concrete; above this level it was formed into living, sleeping, and store-rooms. This iron lighthouse, finished in 1842, has been followed by others of larger size at Bermuda and other places. The iron work in such structures is so adjusted as to be readily put together from the inside, without any external scaffolding; and it has the convenient property of being easily removable, in case the shifting of sands, or other circumstances, should render removal necessary.

Screw Pile Lighthouses.—The Lighthouse Boards have occasionally adopted a singular plan of constructing lighthouses, where the foundation is only a loose shifting sand. Mr. Mitchell conceived and carried out the idea, which consists in supporting the lights on piles *screwed into the sand.* The screw is similar to that of a screw steamer, being large in comparison with the thickness of the rod around which it curls, and having a sharp edge to cut its way into the sand. The principle is chiefly applicable to the construction of beacons, but it has also been applied successfully to small lighthouses in some localities.

Optical Apparatus in Lighthouses.

All these wonderful labours, these watchful cares, these heavy outlays, these complex supervisions—are devoted to the one single object of displaying a bright light during the dark hours of night. The keepers are unable to render succour to ships in distress; they must not even attempt to do so if the attempt is likely to interfere in the smallest degree with their monotonous but onerous routine of daily duties. The light is a warning to keep away, not an offer of assistance. It must be bright enough to penetrate a murky if not foggy atmosphere; elevated enough to be seen from a distance of many miles; and so placed as to denote to mariners the locality of dangerous reefs, rocks, shoals, and headlands. These conditions being necessary, the particular source of illumination becomes the next important consideration.

Non-focalized Lights.—As in every other feature of lighthouse theory and practice, the mode of illumination has gradually undergone many improvements, suggested by scientific researches into the nature of flame and incandescence, the discovery of new sources of light, and the strengthening of the light by focalization. Beacon lights on hill tops and other elevated spots used to derive their flame from billets or strips of wood, rope smeared over with pitch, resin, tar, oil, grease, or other inflammable substance that came to hand; but permanent structures like lighthouses needed some more steady and uniform source of light. When the Eddystone was built Smeaton lighted it with tallow candles, without any reflectors to concentrate the light; and for more than half a century it was thus lighted—wax being during a part of the time substituted for tallow, and the candles increased to twenty-four in number. As late as 1812 the Lizard Lighthouse was illuminated with a coal fire; while the Bidston Lighthouse, near Liverpool, was at the same time furnished with an enormous spirit lamp, with a wick twelve inches in width, the smoke from which was so great as to darken the upper surface of the concave reflector. When the Argand lamp was introduced, which feeds the wick with fresh air much more effectually than any lamps previously used, sperm oil began to be used as the fuel; this was afterwards superseded in our lighthouses by Colza or rape oil.

Catoptric or Reflecting Apparatus.—The advances recently made towards the use of paraffin, gas, and the electric light for lighthouse illumination, instead of vegetable oil. will be noticed pre-

sently; but it will be desirable first to describe the modes of intensifying the light, let it come from what source it may. One of these modes is by reflection from polished surfaces. The earliest plan tried in England was an arrangement of small pieces of silvered glass, so placed behind the lamp as to reflect the rays to a focus out at sea, instead of scattering nearly half of them landward where they are not wanted. A better arrangement was afterwards adopted; a plate of copper faced with silver was hammered to a uniform concavity, the curvature being so calculated (in the parabolic form) as to focalize the rays more completely. In practice several such mirrors are usually employed to send out the rays in various directions at sea.

Dioptric or Refracting Apparatus.—Instead of reflection from a metallic surface another plan involves transmission through pieces of glass having defined shapes. If a lens, such as the object-glass of a large telescope, be placed in front of a flame, the rays will be concentrated to a focus after passing through it. Fresnel, a French philosopher, proposed to build up such a lens piecemeal, so as to obtain the requisite optical power on a larger scale than would be practicable with a single lens. This system is now carried out in an elaborate manner by the use of cylindrical as well as circular or annular lenses; the rays of light are caught in all directions, behind and at the sides, at the top and at the bottom, and made to do useful work by shining out at sea just where ships most need them. Fresnel, the Stevensons, Brewster, and other experienced men, gradually developed this beautiful system; while Messrs. Chance, of Birmingham, have acquired a high degree of skill in making the lenses.

When the Commissioners made their report in 1861, the catoptric and dioptric apparatus were thus distributed among the lighthouses of the United Kingdom;—

	Catoptric.	Dioptric.
England and Wales	52	30
Scotland	14	32
Ireland	51	18

Of these dioptric lights, 46 were of the first order; the others varied from the second to the sixth orders.

The Holophotal Apparatus.—This, which combines reflection with refraction, was devised by Mr. Thomas Stevenson in 1849. Fresnel's apparatus, in its best form, is a very perfect instrument for fixed or stationary lights; but when the light is to be revolving some additional contrivance is needed in order to utilize all the rays. This addition is used in the holophote, where reflection and refraction come in aid of each other by a scientifically planned adjustment.

Azimuthal Condensing Light.—Arising out of the beautiful holophotal contrivance is another by the same engineer, called the azimuthal condensing light, for use in narrow channels or

sounds. In such situations no light is required on the land side of the lighthouse, and very little on the opposite side of the sound; but up and down, or right and left, a good light is needed to guide ships through the passage. This is effected by a particular adjustment of the reflecting and refracting apparatus, by which the light proceeding from the flame is thrown into different directions in proportion to the distances at which it is required to be visible to the mariner — thereby economizing light and consequently oil. This plan was first adopted among the intricate sounds and channels of the west of Scotland in 1857.

Concealed Indicator Light.—An ingenious plan has been devised for rendering a lighthouse serviceable to a mariner, although its *direct* light cannot be seen by him. As an illustrative example the Stornaway light may be adduced. Near this port (among the Hebrides) a sunken rock lies some distance from the shore. In order to save the expense of building a lighthouse on the rock itself, a small and convenient lighthouse has been constructed on shore, the light from which is reflected by a series of glass prisms fixed to a beacon placed on the rock. A mariner, seeing the reflected light, avoids it, and sails past in safety, although he may not be able to see the real light.

Revolving and Intermittent Lights.—The *fixed* light, hitherto supposed, tells its own tale; neither the lamp nor the focalizing apparatus moves. The *revolving* light has a series of large reflectors fixed in a frame which revolves slowly on a vertical axis; a train of wheel-work, kept in motion by a weight, gives a complete rotation to the frame in a definite number of seconds or minutes. At any one particular spot out at sea the light is most brilliant when the centres of the reflectors (or some of them) are in the direct line of vision, and least brilliant when the edges or margins of the reflectors are in that line. These alternate changes from bright to dull and dull to bright, periodically, give to the light a marked character out at sea, and enable the mariner to tell at once a revolving light from a fixed light; thus obviating a danger which might arise (and used frequently to arise) from mistaking one lighthouse for another on a dark night. The *flashing* light is another aid towards the same end. Here the flame, carrying the reflectors as before, revolves much more rapidly, insomuch that the sudden appearances of light, after moments of darkness, have a flashing or scintillating character remarkably perceptible to the eye, more so than the slowly-moving revolving light. The *intermittent* light differs from the revolving and the flashing in this: that the frame is stationary. Once every minute or minute and a half a screen suddenly rises up in front of the reflectors, cuts off nearly all their light, remains there for half a minute or so, and suddenly falls again. The suddenness of the changes produces a striking effect, for the light seems to flash out like a star of the first magnitude when the screen falls, more conspicuously so than the intermittent, and still more so than the revolving.

Coloured Lights.—These enable the mariner to distinguish one lighthouse from another, not by differences in intensity or frequency, but by the use of coloured glasses in front of the flame. The glasses are usually red, but sometimes other colours are employed. When the Commissioners made their investigation in 1860, the colours of 334 coast lights were as follow :—

White light	211	Red and green light ..	3
Red light	59	Red, white, and green light	3
White and red light ..	51	Blue light	2
Green light	5		

The instances are thus few in number in which other colours than white and red are adopted. In 1869 the Trinity House caused experiments to be made in order to determine what proportion should be observed between the white and the red, when both colours are used at one time, or alternately. This inquiry was rendered desirable on account of the intention to adopt a dioptric revolving light for the Wolf Rock Lighthouse, emitting alternate flashes of red and white light. In the Rock Lighthouse, near Liverpool, this combination of the flash system with the coloured system was already in use; there were six reflectors for the white light and ten for the red, the red light being produced by means of chimneys or screens of ruby glass. After numerous experiments, conducted under the care of Dr. Tyndall, it was decided that the red light should be as 11 to 4 in quantity in comparison with the white, in order to produce equal intensity of flash.

Multiple Lights.—Under special local circumstances two lighthouses are placed near together, generally one at a greater elevation than the other. This plan is adopted where there is something peculiar in the channel through which a ship sails, or the passage through which a harbour is to be entered; when one light is seen directly over the other, or in a definite relation to it, the mariner is steering his course safely. Every pair of lighthouses has its own rules, with which it is the duty of pilots to make themselves acquainted. In a few instances of peculiarly dangerous coast three lighthouses are congregated at one spot. This is the case at the Casket rocks, near Alderney, one of the Channel Islands. So numerous, diversified, and perilous are the rocks and shoals in that region that special precautions are needed. These lighthouses, named St. Peter, St. Thomas, and the Dudgeon, are arranged in a triangle, one lower than the other two. The lights are flashing, darting out brilliantly three times a minute, with intervals of comparative darkness. The Dudgeon has also a large fog-bell, to be rung by machinery.

Lighthouse Lanterns.—These are the light-rooms at the top of the tower, containing the lamp or light-giving apparatus, the reflectors and refractors, a gallery or passage for the keeper to obtain access to the mechanism, and an exterior glazing of plate-glass. In the earlier lighthouses, the lantern was simply a small room with windows; but now its construction is a matter of considerable calculation and skill. The bars are made of iron, steel, or bronze, instead of wood, in order, by their narrowness,

to intercept as little light as possible; they are sometimes made diagonal, for the same reason; and the panes of glass are in many cases made convex instead of flat, the lanterns being cylindrical. According to the size of the lighthouse the lantern varies from 12 feet down to 4½ feet in diameter, and from 10 feet to 3 feet in the height of the glazing. The first, second, and third 'orders,' or ranks of lanterns and lights are for sea lighthouses; the fourth, fifth, and sixth for harbour lighthouses, smaller in size. The main construction of the lanterns remains nearly the same whatever source of illumination is used; but minor adjustments are necessary to meet the requirements of each kind, especially when the focalising apparatus is extensive and complex.

Oil, Gas, Electric Light, and Paraffin for Lighthouse Illumination.

We have hitherto spoken of various matters connected with the concentration of the light, but have said little concerning the fuel employed to produce the light itself.

Colza Oil Lamps.—Colza oil has almost entirely superseded the more costly sperm oil and may be spoken of as *the* illuminating power for the lighthouses of the United Kingdom—so rare are the exceptions to its use. A few years ago, when the official or general lighthouses were reckoned at 234 in number, they consumed 104,857 gallons of colza oil, giving an average of about 450 gallons per lighthouse per annum. The Scotch lights were above this average, the English lights below it; this was due to the fact that the Scotch Commissioners use mechanical lamps which give a better light and consume more oil than the Argand lamps employed in England.

The Lime Light.—Lamp oil, whether sperm or colza, was not likely to remain permanently the only source of illumination for lighthouses. Petroleum, or paraffin oil, as we shall see presently, has lately attracted much attention in connection with these matters; but we must first advert to two or three brilliant kinds of light which modern science has developed. One of these is the *oxyhydrogen* or *lime*-light, which has rendered great service in furnishing visible night signals during the Ordnance Survey. This light—at first called the *Drummond* light, in compliment to its able introducer Captain Drummond—was produced by an apparatus comprising a small ball of lime prepared from pure chalk, a spirit lamp, a stream of oxygen gas, and a parabolic reflector to converge the rays in a particular direction. The spirit flame, fed and urged by the stream of oxygen gas, was driven against the little ball of lime, and raised it to such an intense temperature that the lime gave forth a white light of almost unparalleled power—not a flame, but simply a white hot ball. The luminosity is such, that the Ordnance Surveyors saw one of these small lights at a distance of 95 miles from one mountain-top to another. Captain Drummond was impressed with a belief that this powerful source of illumination would be

advantageous in lighthouses. He proposed, in a communication sent to the Royal Society in 1830, that there should be a self-acting apparatus to feed the light with little lime balls as fast as they wasted away; that hydrogen gas, instead of spirit, should be used with the oxygen to produce the flame; that the two gases should be directed in two separate streams against the lime; and that the bit of lime should revolve slowly in order that all parts of it might be acted on in turn.

Inventors from time to time suggested to the Trinity House the use of this mode of illumination; but it was not until 1861 that a trial was made on anything like an effective scale. Dr. Faraday visited the South Foreland in that year, to inspect the upper of two lighthouses where Prosser's lime light apparatus had been fitted up. The lamp was an octahedral prism of quicklime, built up of many small pieces; it was about 16 inches long by 3⅛ inches in diameter. It rested on a clock-movement which raised it perpendicularly one inch per hour. Eight equidistant gas jets were ranged around it, sending forth streams of mixed oxygen and hydrogen; when in action these produced eight spots of intense white light on the lime. The apparatus was easy to manage, and regular in its action; the light was more intense than that of oil or gas; larger, but less intense, than the electric-light. But the light-keepers would have to make the oxygen and hydrogen gases on the spot, by separate chemical processes; and Dr. Faraday regarded this as so serious a source of probable mishap that he could not recommend the system for lighthouse illumination.

Other exceptional sources of light have been suggested: such as Gurney's oxygen lamp, Fitzmaurice's adaptation of the lime light, Walton's voltaic light, Way's mercurial light, a steam and oil lamp, &c.; but without practical results.

The Electric Light.—When the marvels of the electric light became known to scientific investigators a conjecture naturally arose concerning its suitability for lighthouse illumination. Much would depend on the power of maintaining the light steady; seeing that, in most electrical experiments, there is an evanescent, flashing, meteor-like character in this wonderful light. If this irregularity could be overcome, it was hoped by some of the lighthouse authorities that the electric light might shine further, and be maintained at a lower cost, than the colza oil light. The light produced by frictional electricity, and also that which is due to galvanic or voltaic action, have been suggested; but the only form of electric light which has been deemed worthy of lengthened investigation for lighthouse purposes is that which is known as magneto-electric.

In 1857, Faraday examined Holmes's plan for applying this system to lighthouses, by experiments at Blackwall. These resulted in a practical trial at the South Foreland Lighthouse in 1858 and the following year. The experiment was so far satisfactory that Faraday reported favourably on it. After long consideration the Trinity House purchased the apparatus, had it enlarged and

improved, and set it up at Dungeness Lighthouse in 1862. Faraday visited it from time to time, and reported on the result, which was generally favourable. There were occasions, however brief, when the light ceased for a time, owing to some slight derangement in the more delicate parts of the apparatus, or negligence on the part of the keeper. These casualties rendered it necessary for the Trinity House to keep the old Argand lamps and reflectors at hand to re-light in case of mishap.

Meanwhile suggestions were made by various persons that this powerful mode of illumination should be adopted in other localities. The fine apparatus shown at the International Exhibition of 1862 tended to strengthen this desire. New lighthouses being required at Portland, the Trinity House proposed to use Argand lamps as usual; but the Board of Trade withheld assent until the electric light had been further tried. When Mr. Holmes, in 1864, sent in a definite plan in regard to Portland, the Trinity House refused—each Board having a kind of veto on any new schemes advocated by the other. There was also a plan for adopting the electric light at Start Point Lighthouse which met with the same fate. Matters went on in this fashion during 1864. In 1865 the Scotch Board, hearing that Havre Lighthouse was trying a new kind of electric light invented by Nollet, sent over Mr. Stevenson to inspect it; the Trinity House also sent over a deputation. Opinions differed concerning the relative merits of the Holmes and the Nollet systems. As to the electric light generally the Trinity House reported in November of this year that, 'Within a limited range of nine or ten miles it is immensely superior to every other light; but beyond that distance it appears to lose in a great degree its powers; until, at eighteen or twenty miles, it is not very different from an ordinary first-class light. Within the stated distance of ten miles the light increases as the distance lessens, and anywhere in its immediate proximity it is almost dazzling in its lustre—so much so as to render great caution necessary to vessels navigating within short distances.' The Trinity House announced to the Board of Trade its willingness to adopt this powerful mode of illumination in a second lighthouse, but without determining on the locality. Mr. Stevenson, on his part, reported to the Scotch Board his opinions of the Holmes Dungeness light and the Nollet Havre light, and recommended that one or other of these systems should be tried at Inchkeith. He believed that, with changes in the optical arrangement, the electric light would be good at certain salient parts of the Scottish coast, and as a substitute for fixed red lights. In 1866, Mr. Wilde's powerful magneto-electric machine was brought under the notice of the Scotch Board, as a grand source of electric light. This is not the place to describe minutely the differences between the Holmes, Nollet, and Wilde apparatus; it must suffice to say that in all of them a steam-engine gives a rapid rotatory motion to magnets; that this motion engenders an electric current; that this current dashes across a narrow

space between two small rods of carbon or prepared coke; and that a light of surpassing brilliancy is emitted by the points of the carbons (as they are technically called) during this passage. Each machine has a self-acting apparatus for keeping the two carbons at a definite distance apart, moving them slightly as the substance gradually dissipates; but the replenishing with new carbons must be done by hand. One of the keepers at Dungeness was caught napping on a particular night; he did not renew the carbons at the proper time, and the light went out.

Dungeness has maintained its electric light to the present time, with only a few mishaps. The Paris Exhibition of 1867 brought this mode of illumination strongly into favour in many quarters; and the Trinity House announced its intention, in 1868, of preparing plans for the introduction of the system at South Foreland, Lowestoft, and Souter Point lighthouses. In the early months of 1869 Dr. Tyndall (who succeeded Dr. Faraday as scientific adviser to the Trinity House) made numerous experiments on an improved arrangement of Holmes's machine. The results were such as to encourage the authorities in a further adoption of the electric system at carefully selected spots. Accordingly, the Souter Point Lighthouse was made a member of the series. This is one of the largest and best mainland lighthouses (as distinguished from those on wave-washed isolated rocks) in the kingdom; situated about midway between the mouths of the Tyne and Wear. It is 150 feet high, and was finished and opened in 1871. The source of illumination is Holmes's electric light, revolving and intermittent, flashing out at intervals of thirty seconds. Another member of the series, the South Foreland, where the electric light was first tried for lighthouse purposes, is now definitely illuminated in this way. In order to distinguish this important landmark from others on the south coast two lighthouses are employed; they are about 450 yards apart, and one is 97 feet higher up the cliff than the other. The electric apparatus house, placed midway between the two towers, is provided with four of Holmes's machines, two for each light; underground wires convey the impulse from the apparatus to the burners. There are now three electric lights forming a triangle, each visible from the other two—Dungeness, South Foreland (double), and Cape Grisnez on the French coast.

Gas for Lighthouses.—As might reasonably be expected, the suitability of gas for lighthouse illumination has engaged the attention of engineers and inventors. About the year 1863 Mr. Wigham, of Dublin, brought under the notice of the Irish Board a newly-patented apparatus for this purpose. The Board assented to the necessary arrangements for making a trial at the Hill of Howth, on the northern margin of Dublin Bay. A report of the result, issued in 1865, was sufficiently favourable to lead to the adoption of gas permanently on that spot. In 1867, the Inspector of Irish Lighthouses stated that the light was much better than that of any oil-lamp employed, and had cost less money to maintain. Gaslight was next employed at Wicklow Head. Dr.

Tyndall, reporting on this second experiment, stated that gas is well suited for intermittent lights. 'The light is rendered intermittent by a machine which cuts off at intervals the main supply, leaving open a bye-way which is barely sufficient to keep the tips of the flames alight. The intervals of darkness are of three seconds, during which there is no waste of gas; the luminous intervals are of ten seconds.' The light is cut off with strict regularity by self-acting apparatus.

The results in Ireland becoming known, Messrs. D. and T. Stevenson, as engineers for the Scottish lighthouses, experimented on Wigham's gaslight apparatus at Granton in 1868. They did not find the light so superior to that from oil as to justify any material changes; they thereupon proposed that, in further trials, gas should be made expressly for the purpose, instead of using street gas. This was done in 1869; and it was found that, with the annular lens used for revolving lights, gas gave a less brilliant light than oil; but that the superiority was in the other direction with the cylindrical refractor used for fixed lights. The advantages of gas for revolving lights having thus been rendered doubtful, experiments were made on fixed lights. The gas-burner was $6\frac{3}{4}$ inches diameter, with 52 jets, consuming 196 cubic feet of gas per hour; the oil-burner was a mechanical or fountain lamp, $3\frac{3}{4}$ inches diameter, consuming 0·212 gallons per hour; a cylindrical refractor being used in each case. The light of the gas was to that of the oil as about 5 to 4. In further experiments, with a gas-burner $9\frac{1}{8}$ inches diameter, having 72 jets, and a five-wick lamp $4\frac{1}{2}$ inches diameter, the oil was brighter than the gas in the ratio of about 10 to 9: the consumption being in the one case 240 cubic feet of gas, and in the other 0·264 gallons of oil per hour. Estimating colza oil at the contract price paid for it (2s. 9d. per gallon), and gas at 4s. per 1,000 cubic feet, it was found that the annual cost of gas illumination would be higher than that of oil. This difference would be all the more noticeable in remote situations; for while the weight of oil for a year's consumption in an average lighthouse is under 3 tons, the weight of coal for gas to produce an equal light would be more than 300 tons, thus involving a serious additional freight. As a summary of results, Messrs. Stevenson reported to the Commissioners, in May, 1869, that, neither in regard to brilliancy nor cost is there reason for changing from oil to gas illumination.

Dr. Tyndall, when requested by the Board of Trade to give his opinion on Messrs. Stevensons' report, expressed his belief that they had, in various ways, over-estimated the cost of gas, and under-estimated that of oil. He adhered to an opinion, formed after his experiments at Howth in the early part of the same year, that gas illumination for lighthouses is worthy of trial, if not of permanent adoption. Mr. Wigham, and the London gas referees (appointed by Act of Parliament to analyse and report on the gas used in the Metropolis), in like manner objected to Messrs. Stevensons' decision, as being too favourable to oil, too

unfavourable to gas. These engineers then corrected several items in their calculation, but still maintained that oil has a balance of advantages over gas. Dr. Tyndall, estimating a fish-tail flame of London gas as equal to the light of 12 sperm candles, found that of Howth to be as high as 38, due partly to the use of the 'crocus' burner, and especially of one called the 'composite' burner. The Howth gas cost, however, nearly 10*s.* per 1,000 feet, being made of Scotch cannel coal at 35*s.* per ton (including freight to Howth). Dr. Tyndall pointed to the fact, that gaslight can be strengthened in foggy or murky weather much more easily than that of oil, by increasing the number of concentric rings of jets lighted at one time. On the other hand, he pointed to the fact that some lighthouse localities are unsuited for the manufacture of gas. Mr. Wigham's plan is to make the gas from special kinds of coal at the lighthouse.

Early in 1870 the Inspector of Irish Lighthouses took part in the controversy, claiming a balance of advantages for gas. In October of the same year, Dr. Tyndall responded to a request made to him by the Board of Trade, to examine the question 'whether gas can advantageously be used in the case of revolving lights.' He experimented at Howth on a four-wick oil-lamp, a 28-jet Wigham gas burner, and a 108-jet burner. The result of a week's elaborate experiments was expressed thus:—'I am aware of no purpose to which the Trinity four-wick lamp may be applied which may not be equally served by the 28-jet gas flame;' that the 108-jet gas is more intense for special circumstances; that the expense, for equal intensity of light, is in favour of gas; and that he would, for the third time, say, 'Let the application of gas to lighthouse purposes be still further encouraged in Ireland.' So many distinct authorities thus pronounced in favour of gas (against the views of Messrs. Stevenson), that the Irish Light Board, with the sanction of the Board of Trade, made arrangements for superseding oil by gas at Hook Tower Lighthouse, at the entrance to the River Suir, and at Hime Head Lighthouse, Waterford; the first of these two lights being fixed; the second intermittent. In a further report in 1871, Dr. Tyndall expressed a belief that a flashing or intermittent light could be so managed as to save just one-half of the gas that would be necessary for a fixed or continuous light, a saving that cannot be effected when oil lamps are used. The Inspector of Irish Lighthouses made experiments which corroborated this view.

We may, therefore, sum up by stating that gas is fairly on its trial. Dr. Tyndall says that it competes successfully with oil in quantity of light; but he attaches most importance to 'the ease and promptness with which gas lends itself to various modes of distribution. I anticipate great ameliorations and advances from its future use.' At present five Irish lighthouses employ gas, and it is to be tried in England.

Paraffin Oil.—The abundance and cheapness of paraffin oil, obtained by distillation from some kinds of coal and shale, have

suggested its substitution for colza oil in lighthouse illumination. Captain Doty, the inventor of a new lamp for burning it, introduced the subject to the notice of the Trinity House in 1868. The lamp was examined and reported on by Dr. Tyndall and the Messrs. Stevenson; improvements were made, and 'circumlocution' began its wonted work. The correspondence on this subject alone occupies scores of folio pages of print; first, discussing preliminary matters in 1868 and 1869; then bargaining about terms in 1870 and 1871; and then contesting priority of inventions, &c., in 1872. The Scotch Board has shown favour to the scheme: the Trinity House, while looking forward to the substitution of paraffin for colza oil eventually, has other notions about the kind of lamp to be used; while the Irish Board wishes to be allowed quietly to proceed with the gas scheme. After numerous experiments and comparative tests the Board of Trade, in the exercise of its controlling power, applied to Captain Doty to know on what terms he would consign the free use of his invention for lighthouse purposes in any or all parts of the United Kingdom. He estimated the colza oil used in our lights at 190,000 gallons per annum, which, at 3*s.* per gallon, would cost 28,500*l.* He stated the cost of his own new method at 12,112*l.* per annum, effecting a saving of 16,388*l.* a year; and he proposed that the nation should have the benefit of his invention for 10,000*l.*, about equal to seven months' saving. This proposition was made in February, 1872; and the Board of Trade at once declined it. Dr. Stevenson Macadam had previously applied tests to the oil (paraffin obtained from shale), and had pronounced that, 'taking volume for volume, it is superior to colza to the extent of one-fourth more light in the first order of lamp, two-fifths more in the second order, one-half more in the third order, and four-fifths more in the fourth order;' whilst, comparing weight with weight, it gave 'two-fifths more in the first order, three-fifths more in the second, three-fourths more in the third, and fully double in the fourth.' Captain Doty now proposed that he should be paid according to the actual saving in each lighthouse, instead of a lump sum for the whole. This offer, like the former, was declined by the Board of Trade.

The controversy has become complicated by a rivalry of inventors. Mr. Douglass, engineer to the Trinity House, was requested by the Board to make such alterations in the colza lamp as would enable it to burn paraffin; this he did; and as paraffin oil is not more than half the price of colza oil a saving was effected. There thence arose questions relating not merely to the amount of saving, but also to priority of invention. The mechanical details of the lamp were not patented by Mr. Douglass, but those of Captain Doty were, as likewise have been improvements by other inventors in lamps for burning paraffin. This is not the place for describing technical details nor the relative claims to excellency put forth by two or more inventors: but it may be observed that the Trinity House has strongly protested against any such monetary arrangement as Cap-

tain Doty proposed. Messrs. Wilkins are the patentees of another form of lamp; and they, with the approval of many scientific men, in like manner point out its suitableness for lighthouses.

At the time of preparing this paper for the press the paraffin question is in a position that may be thus summarised: Three inventors, among a much larger number, have devised lamps for the burning of paraffin in lighthouses; and nearly all experimenters agree that this liquid gives a better light than colza oil for the same cost, or an equal light at a lower cost. The English Board manifests a leaning towards the adoption of the Douglass lamp; the Scotch Board the Doty lamp; and the Irish Board the Wilkins lamp (looking forward, however, to the use of gas in preference both to paraffin and colza). The Board of Trade, whose permission must be obtained before any of these three bodies can spend money on improvements or new schemes, steers with some difficulty through conflicting currents of opinion. In short, there is no one central authoritative tribunal empowered to decide definitely concerning the relative advantages of colza, paraffin, gas, and the electric light for lighthouse illumination.

Lighthouse Services and Duties.

The captains and pilots of ships receive their information about lighthouses—not from any of the three bodies which manage those establishments, nor from the Board of Trade as a central authority, but from the Admiralty. This is another of the elements of complexity already more than once adverted to; but it is at any rate consistent in this—that the ships of the Royal Navy and those of the Merchant Service all obtain their instructions from the same source in regard to the aids and warnings afforded by lighthouses. An Admiralty list of the lights of the British Islands is published periodically, comprising a well-arranged tabulation of lighthouses and lightships. The edition for 1872 gives the number as follows:—

England, South Coast	91
,, East Coast	85
,, West Coast	98
Scotland, East Coast	67
,, Orkneys, &c.	15
,, West Coast and Hebrides	53
Isle of Man	12
Ireland	93
	514

This is the total number of public lighthouses and lightships at present in the British Islands, irrespective of the harbour and dock lights belonging to corporations and joint stock companies.

When a mariner is navigating his ship near the coast at night, he not only looks out for lighthouses, but must discriminate between one and another, in order to avoid mistakes that might be disastrous. To aid in this discrimination the Admiralty list gives numerous particulars concerning every one of the 514 lights—the name of the light, the latitude and longitude, the

number and colours of the lights, the number of miles the light can be seen in clear weather, any peculiarity in the lighthouse itself, the height in feet of the lantern above high water, the height in feet of the building from the base to the summit, and the year when it was first lighted. There is also exact information given as to the nature of the light, whether fixed, flashing, intermittent, alternating, or revolving; whether it is produced by oil, gas, or magneto-electricity; and the order or class of the focalising apparatus, with the distinction between catoptric and dioptric. In a note of explanations, a flashing light is stated to show five or more flashes and eclipses per minute; a fixed and flashing light has a white or red flash added to the fixed or stationary, appearing and occulting at intervals of two to four minutes; a revolving light gradually increases in brightness, and then as gradually lessens to dimness, in an interval which varies at different lighthouses from one-third of a minute to three minutes; an intermittent light suddenly appears in view, remains visible for a definite time, and then as suddenly disappears; an alternating light shows red and white alternately at equal intervals, without any intervening eclipse. Let us take the two lighthouses on Gremsa Island, one of the Orkneys, as examples showing how the mariner is instructed to read the lesson taught him by these safeguards. 'The high light is *red* when seen from seaward, but white when between S.S.E. ¼ E. and W.S.W.; it also lights a small arc towards Cava in Scapa Flow between N. ¼ W. and N.N.W. ½ W. The low light is *white*, and is visible between E. ½ S. and W. ½ N. round by S. When the lights are in one they lead between the rocks of Bow and Kirk; when within half-a-mile of shore on this line, the high light disappears below fore ground, and it is then time to haul towards Stromness shore, when the *red* light will re-appear.'

The daily routine of lighthouse service at the chief stations presents uniform characteristics. Take the Skerryvore as an example. Two keepers are always present, each of whom watches continuously for four hours during the night. He has all the light-giving apparatus immediately in view. By means of a speaking tube he can rouse his sleeping companion below; and a door gives him exit to a balcony, where he can put a fog-bell into action in bad weather by connecting it with clockwork, which rings it at regular intervals. Every morning a ball is hoisted, to denote that all is well at Skerryvore; this is visible at Hynish, on the coast of Tyree. If, on any occasion, the ball is not seen at the proper time, a Hynish ball is hoisted to ask for explanation; and if this is not responded to, a schooner, always kept ready in a wet-dock, is sent out. There are always three men on the rock, as a matter of precaution, and a fourth or spare keeper at Hynish. Every man has six weeks on duty, and then two on shore; but sometimes the sea is so violent that the schooner cannot reach the rock, and the men may be cooped up for two, or even three months together. The rock is sufficiently

large for the men to climb and roam a little way in daylight hours, enjoying the free air, and catching a few fish. Some of the rock lighthouses stand on a base too small to admit of this freedom of movement. Of course the men are well provided with provisions and stores for a long time. In English lighthouses the light is kept burning from sunset to sunrise. In Scotland the period of twilight is deducted, or so much of it as belongs clearly to day rather than to night. Every lighthouse is provided with a table, calculated for the latitude, showing the hours for kindling and extinguishing the light day by day. This Scotch system leads to economy in the consumption of oil, and to a lessening of the time during which the keepers have to keep up their onerous and monotonous duty of watching. All parts of the apparatus are scrupulously cleaned during the daylight hours, and the routine duties are based upon order and regularity in everything. The lives spent by the keepers are necessarily exceptional; and attempts have been by made, both by novelists and by dramatists, to throw an air of romance over lighthouse life by depicting imaginary scenes of discord or distress. Certainly in a general way, there is very little of the element of romance present.

Mr. Chambers, in relation to his visit to Skerryvore and other northern lighthouses, states that when the building is situated on shore, the keepers, besides a salary of about sixty guineas a year, are provided with a uniform, a furnished dwelling, coal and candles, a small garden, books and periodicals (changed about from one locality to another), medical attendance, with occasional visits of a missionary schoolmaster. When the lighthouse is on an isolated rock, the men are provided with rations also. The Scotch commissioners (to whose system his remarks apply) deduct 3*l*. a year from the salary of every keeper, and invest it in effecting a life-assurance for the benefit of his wife and children; the sum thus insured being usually 100*l*. to 130*l*. There are likewise retiring allowances for superannuated well-behaved men. Instances are known of the men tiring of the seclusion of their lives, remote from all friends and family associations in the rock lighthouses; but for the most part they are contented, especially those who can have their families with them in the dwellings attached to the shore lighthouses. The periodical visits of inspectors, and of the tender bringing stores, are quite events in the lives of the rock lighthouse keepers; while the men get a little news from the outer world by the occasional visits of yacht-parties. 'Some keepers solace their spare hours with handicrafts; one is a good tinsmith, another amuses himself with a turning lathe and carpenter's bench; and I heard of a third who is noted among the islands as an excellent bootmaker. . . . . Neither man nor woman whom I talked to complained of loneliness. No; it was not there that the shoe pinched. Revealing, as I thought, a fine trait in the Scottish character, that which only and really detracted from the happiness of the situation was the difficulty—often the entire impracticability—of

getting proper schooling for the children. 'I have not been at church for four years and scarcely expect to be ever at one again,' said the wife of a keeper. Another whom I spoke to gets to church twice a year in a boat, the voyage thither being fourteen miles, along a rugged coast full of sunken rocks." This state of things occurs, not at the rock lighthouses (where there is no possible home for the families of the keepers) but in the coast lighthouses, where, although there are comfortable dwellings, the distance from any inhabited town or village is often such as to render isolation almost inevitable. 'Wherever placed, the cluster of buildings composing the establishment, with their whitewashed walls, form a kind of oasis in the desert—a bit of civilization planted and flourishing in the midst of scenes of savage sterility.' According to the organized plan, the keepers at Skerryvore are nine months in the year at the lighthouse, and three months with their families on shore. But this regularity may be deranged by the weather. In a recent winter, two men were confined to the rock for thirteen successive weeks, in consequence of the stormy condition of the sea preventing communication with the shore.

Every lighthouse is provided with printed rules pointing out the daily duties to which the keepers must attend. Here, for instance, are some of the instructions drawn up by Messrs. Stevenson for the daily cleaning of the metallic reflectors in the catoptric apparatus:—'The great art of keeping reflectors brilliant consists in the daily, patient, and skilful application of manual labour in rubbing their surfaces with three different chamois skins, beginning at the centre and gradually working outwards with a circling motion of the hand. The first chamois skin should be lightly dusted with prepared rouge of the finest kind, kept in a small double bag of muslin. The second and third should have no rouge, and the third should be used in a light and quick manner. No damp or wet substances should ever be applied to silver reflectors.' If the reflector is made of brass or zinc (which is only the case in less important lights), the keeper is directed to 'use the finest kind of rottenstone, which should be obtained in lumps, scraped down as required, and used with water; the reflectors should be afterwards rubbed with fine whiting, which will of itself be sufficient in ordinary cases.'

The lamps and apparatus of a large lighthouse employ the keepers several hours a day in order that everything should be maintained in a condition of scrupulous cleanliness. Perhaps this is a good thing for the men themselves—lessening the *ennui* of lonely hours.

GEORGE DODD.

CHEAP LITERATURE—PAST AND PRESENT.

THE term 'cheap literature' is capable of wide expansion. It may be accepted as including the cheap one-volume re-issue of the three-volume novel, or, indeed, any lower-priced edition of works originally published in a more expensive form—which are cheap in a comparative sense only; or, it may be applied solely to that class of all qualities and very low prices which is purveyed under the designation of 'literature for the million.' Taking the term even in its most legitimate sense it covers a wide surface. It is given indiscriminately to such inferior periodical publications as the 'London Journal,' 'Weekly Budget,' 'Here and There,' 'Tales of the Road,' issued in weekly penny numbers, and others of the same class; and also to such works as may be found in the different series published by Messrs. Chambers, Mr. Charles Knight, and Messrs. Cassell, all of whom have striven with philanthropic zeal to elevate popular taste and educate the public mind by disseminating high-class literature in a cheap form.

The earliest appearance of cheap literature was in the shape of chap books, hawked about the country by humble pedlars. The numerous specimens of these publications still extant in various collections show them to have been very wretched productions, miserably printed, and sometimes illustrated with coarse wood-cuts, exhibiting the very lowest standard of the wood-engraver's art. The matter was generally not much better than the form in which it was conveyed. The subjects of these chap books, as a rule, were of such a character as one would suppose would make them acceptable to people of rude tastes and half-educated minds. There were the lives and adventures of notorious highwaymen, accounts of apparitions, shipwrecks, murders, and abductions; treatises on astrology, witchcraft, and fortune-telling. Some of a better kind furnished the source whence modern compilers have gathered those stores of legends and ballads which convey to the present generation some idea of the traditions and superstitious beliefs of their forefathers, and which would, indeed, have been lost altogether to posterity, if the writers and printers of these chap books had not preserved and published them for their own profit.

Before entering upon a review of the causes which led to the gradual supercession of chap books by literature of a higher class and better form, it may be instructive to observe that during the period in which those publications furnished almost the only reading accessible to the poorer people there was in existence a literature which, though much higher in quality, was not more elevated in tone than that now demanded and easily obtainable by those very classes. If, however, they had possessed the intelligence and culture necessary to enable them to enjoy and profit by the perusal of books of a superior class, their price was far beyond their means. The efforts of public benefactors have led

to a vast, though not yet complete, alteration of this state of things, and combined with the spread of wealth and intelligence, have enabled those, who a hundred and fifty years ago were content with chap books, to enjoy the productions of the highest intellects in the realms of art, literature and science. This progress has not been effected by legislation, but, on the contrary, many Acts of Parliament have tended to check it. It has suffered many interruptions from those who should have encouraged it, and various taxes upon knowledge have, even in recent years, threatened to recal the ignorance of the past. If it be true that 'knowledge is power,' it is the power of the nation in a degree palpably greater than that of the individual, and this great truth could hardly be more forcibly illustrated than by a comparison between England and Italy at the present time. In Italy, still renowned for men of learned distinction, the common people remain in a condition of ignorance as dense as that of the English two centuries back, and receive all the mental pabulum they desire from precisely the same kind of literature, viz., that contained in chap books.

As early as the beginning of the eighteenth century efforts were made to introduce a popular cheap literature, written with high skill, and treating upon current topics in a thoughtful and instructive manner. In 1704, Daniel Defoe commenced a paper called the 'Review,' which lasted till 1713. This was followed, in 1709, by the 'Tatler,' chiefly written by Steele and Addison. It was sold for a penny, appeared three times a week, and continued until 1711. The same writers published immediately afterwards the 'Spectator,' a daily sheet, issued at the same price as its predecessor. These early specimens of good cheap literature contain some of the choicest productions of the English language. About this time also, it appears, London produced one daily paper, eleven papers, besides the 'Tatler,' issued thrice a week, and three bi-weeklies. It is not a rash assumption that if these publications had not been summarily checked general intelligence would now have been fifty years in advance, and the labour of legislation in certain directions proportionately lightened.

The causes which put an end to the existence of such papers as the 'Spectator' were as simple as they were effectual. On the 12th August, 1712, a stamp duty of a half-penny on half a sheet, and a penny upon a whole sheet was inflicted on all publications issued in newspaper form; and this applied equally to those with contents of a purely literary character. This restrictive measure was accompanied by a tax of a shilling on every advertisement. Before these obstructions were raised the daily circulation of the 'Spectator' reached to about 3000; an encouraging fact when it is considered that the writers were forming new and higher tastes in the readers of their generation. After the imposition of the stamp and advertisement duties the sale dwindled to 1,600, and in 1713 the paper ceased from want of support. In the collected form 9,000 copies of each volume were sold.

During the eighteenth century there appeared a large quantity of high-class cheap literature, but low as it was in price it was not sufficiently reduced to reach the poorer people, and no means were adopted to make it accessible to them. A general idea seems to have pervaded the minds of statesmen and other public men that it was a wise policy not to permit the masses to rise from a state of quasi-ignorance, and that it was legitimate to use any means to prevent them from taking a deep interest in public affairs. Comments on parliamentary matters were viewed with strong dislike and suspicion, and as newspapers seemed disposed to devote a portion of their space to articles of that class it was judged expedient to introduce the stamp and advertisement duties, not simply as a source of revenue, but as repressive agents. Meanwhile the people, debarred from purchasing good literature, took that which came within their means, and, unfortunately for themselves and the country, it was of a very demoralising character.

Whilst observing that no attempts were made to cultivate higher reading tastes in the poorer people, we may also glance at the important fact that the eighteenth century saw a great advance in the supply of cheap high-class literature for the middle classes. During that period they became converted into the reading public, and were recognised as the real supporters and patrons of literature. Works of the great poets, novelists, dramatists, philosophers, and historians were issued in a cheap form, and led to a rapid improvement in public taste. The patronage of great personages was no longer relied upon for success, nor regarded as absolutely necessary to avert pecuniary loss. Five editions of Richardson's 'Pamela,' published in 1741, were sold in one year. In 1764, Hume's 'History of England' was issued in eight monthly five shilling volumes, and had a great success. It is recorded that the publisher of 'Tom Jones' made 18,000*l.* by the sale of that work. In 1731 appeared 'The Gentleman's Magazine,' the parent of a numerous progeny. It was quickly followed by a long list of imitators :—'The London,' 'The Universal,' 'The Literary,' 'The Royal,' 'The Complete,' 'The Town and Country,' 'The Ladies,' 'The Westminster,' 'The European,' and 'The Monthly.' These publications, however, were issued for the better class of readers; the lower continued to be supplied from the same pernicious sources as formerly.

The first sustained attempts to reach the minds of the working classes by means of literature instructive and entertaining, as well as cheap, were made by Cook in the publication of his cheap series of British Classics; also by Nicholson, of Manchester, in a number of cheap, well-printed works of an interesting character. In 1827, Constable commenced his 'Miscellany' at 3*s.* 6*d.* the monthly volume, and the Society for the Diffusion of Useful Knowledge their 'Library of Useful Knowledge,' published at 3*d.* a sheet.

Miss Martineau, speaking of the objects of the Useful Knowledge Society, has remarked—"It did not succeed in all

its professed objects: it did not give to the operative classes of Great Britain a library of the elements of all sciences—it omitted some of the most important of the sciences, and, with regard to some others, presented anything rather than the elements. It did not fully penetrate the masses that most needed aid. But it established the principle and precedent of cheap publication (cheapness including goodness), stimulating the demand for sound information, and the power and inclination to supply that demand; and marked a great era in the history of popular enlightenment." Other projects of a similar nature were carried out at successive intervals, but none could be said to be successes as regards their essential object. The want had not yet been met with respect to cheapness or subjects of immediate interest to the working classes. Mr. Charles Knight, whose labours in the cause of popular enlightenment will ever be remembered by those for whom he worked so zealously, was more successful when in June, 1844, he carried out the same idea in a more popular manner by the publication of a weekly shilling volume, each issue being a work in itself, and the whole series designed, when complete, to constitute a comprehensive library, containing works on natural history and philosophy, arts and sciences, geography, general literature, biography, and fiction. It was a grand conception, which did not meet with the response it deserved. That it was carried out conscientiously, and that in each part the highest talent was employed, may be gathered from the fact that many works issued in that series still maintain a high position as authorities on the subjects treated. It cannot be doubted that most of these well-meant projects failed because they did not satisfy the prevalent taste for fiction and news. The wide circulation of low cheap literature still continued, nor was it crushed by the efforts which were made in another direction to supply its place by something of a better kind.

William Chambers commenced his 'Chambers' Edinburgh Journal,' on the 4th February, 1832. Published weekly at three half-pence, its object was set forth in the opening address. In this it was stated 'that the people of Great Britain and Ireland have never yet been properly cared for in the way of presenting knowledge under its most cheering and captivating aspect to their immediate observation. The scheme of diffusing knowledge has certainly been more than once attempted by associations established under peculiar advantages. Yet the great end has not been gained. The dearth of the publications, official inflexibility, and above all, the plan of attaching the interests of political or ecclesiastical parties to the course of instruction or reading, have separately or conjunctly circumscribed the limits of the operation; so that the world, on the whole, is but little wiser with all the attempts which have been made. The strongholds of ignorance, though not unassailed, remain to be carried. The sale of this journal speedily reached eighty thousand, and it became a great financial success. Mr. Charles Knight, under

the auspices of the Useful Knowledge Society, shortly afterwards, viz., in March, 1832, began the 'Penny Magazine.' This undertaking was not so successful as 'Chambers' Journal,' although its claims to popular support, as far as intrinsic merit went, were far higher. It contained instructive information on a great variety of subjects, conveyed in a condensed form, and it was also embellished with wood-engravings of a high class, calculated to encourage artistic tastes in humble readers. It inaugurated the application of engraving on wood to periodicals. To Charles Knight, therefore, the public of the present generation owe the varied enjoyment they gather from the marvellously cheap and excellent specimens of the wood engraver's art with which modern cheap literature is illustrated.

The sale of the 'Penny Magazine,' reached 200,000, but afterwards declined to 20,000. It was discontinued in 1845, whilst 'Chambers' Journal' has maintained its popularity to the present time. The cause of this is undoubtedly to be found in the fact that the 'Penny Magazine' excluded fiction, whilst the contents of 'Chambers' Journal,' were frequently diversified by short tales and pleasant sketches. Messrs. Chambers pursued the same wise course in a subsequent undertaking, viz., their 'Miscellany of Useful and Entertaining Tracts,' issued in weekly complete parts, the whole forming twenty volumes, which still find numerous readers. Taking up a volume of this series, we find among its contents, first a tract, the subject of which is the 'Life of Henry IV, King of France;' next follows 'A Story of the Factories;' the third contains 'Anecdotes of Serpents;' the fourth is a narration of 'The Adventures of Robert Drury,' &c. The publishers evidently kept well in view the purpose of combining amusement with instruction and, by special attention to the first of these objects, strove to chain popular attention to sound literature. The 'Penny Cyclopædia,' begun on the 2nd January, 1833, by Mr. Charles Knight, for the Useful Knowledge Society, was a very comprehensive undertaking. It had all the good features of more expensive works of the same nature, while at the same time, it was adapted to the means of the poorest working man. A compendium of information in every branch of knowledge, it was accessible to all. The Useful Knowledge Society had the credit of this great undertaking, and Mr. Charles Knight, who really originated it, the risks of its publication. He eventually suffered losses consequent upon its issue, to the extent of 31,000*l*. This work took eleven years for its complete issue. Its maximum circulation in numbers was 55,000, its minimum 20,000.

It has been stated by different authorities that these various publications were not popular amongst the working classes; that they were purchased chiefly by small shopkeepers, warehousemen, clerks, and assistants. The result of such works is, however, evident in the civilisation of the present day. If they did not penetrate thoroughly to the artisan class they had an indirect effect upon it through the class immediately above it.

Further, they inaugurated a new era in periodical literature, and were the source from whence has sprung the modern cheap periodical press. It was reserved for a more potent influence to accomplish more thoroughly the work begun by Messrs. Chambers and Mr. Charles Knight.

Twenty years ago the prevalence of unwholesome and vicious literature attracted the attention of English writers and statesmen. 'The Edinburgh Review,' July, 1850, stated that—

'The total (annual) issue of immoral publications has been estimated at twenty-nine millions, being more than the total issues of the Society for Promoting Christian Knowledge, the Religious Tract Society, the British and Foreign Bible Society, the Scottish Bible Society, the Trinitarian Bible Society, and some seventy religious magazines.'

Mr. Charles Knight has stated :—

'At the beginning of April, 1850, there were issued from the 'London Press,' to be continued in weekly numbers, at a penny and three half-pence each, one hundred separate publications. Of these, sixty were wholly works of fiction and ribaldry. Of the professed works of fiction, a great number were of the 'Jack Sheppard' school, such as 'The Freebooters;' 'Dick Turpin;' 'The Bold Smuggler;' 'Paul Jones;' 'Gentleman Jack;' 'The Brigand;' &c. The hash is varied by every variety of tales of murder. The influence of such publications are counteracted by twenty-two weekly journals, for the most part innoxious.

'The circulation of pernicious publications is immense. In 1845, it was calculated from London alone, there was a yearly circulation of stamped and unstamped newspapers and serials of a decidedly pernicious character, to the extent of 28,862,000! During the last five years, while cheap religious periodicals have made limited progress, either in numbers or interest, the corrupt printing press has been unceasingly at work. The present circulation of immoral unstamped publications of a half-penny to three half-pence each, must be upwards of 400,000 weekly, which would give the enormous issue of 20,800,000 yearly! In addition to these there is the weekly importation of French prints and novels, of so indecent a character that once they could only be obtained by stealth, but may now be purchased openly from any vendors of the other periodicals. We lately observed a shop called the 'Parisian Repository for the sale of French prints,' where the business was entirely confined to that class of publications.'

Another writer states that, in 1851 and 1852, 100 new penny periodicals were started, 'the greater part of these calculated to do harm rather than good.'

This subject occupied the attention of the Select Committee on Newspaper Stamps, which sat in 1851. A considerable amount of interesting evidence bearing upon it was elicited from various witnesses who, from their connection with the press, or as publishers and booksellers, were in a position to speak with authority. There was an unanimous opinion expressed that any

taxes on newspapers, which by making them dear restricted their circulation, increased the supply of, and demand for, pernicious literature. Mr. M. J. Whitty, editor and proprietor of the 'Liverpool Journal,' in the course of his examination, said that improper papers were read by the working classes for want of better. Asked to furnish an illustration of this opinion, he stated that, at the time of the unstamped newspapers, there were a great number of them, Hetherington's and others: before that, there were an immense quantity of penny and twopenny papers of a very obscene and improper character; but the *appearance of the unstamped newspapers killed them off in dozens.* He believed that if newspapers were sold at low prices, very few bad publications would be issued. He was of opinion that already a purer taste in the people had been created.

Mr. S. G. Bucknall, a publisher and printer of Stroud, remarked, that what unstamped publications the people had were, generally speaking, rather of a demoralising character than otherwise; large numbers of them were novels, such as 'Dick Turpin,' 'Jack Sheppard,' the 'Highwayman,' and the 'Black Dwarf;' all these, the foulest filth of the printing-press, were read by those people eagerly, and they encouraged a love of adventure, which might be natural, but which certainly, he thought, ought not to be encouraged beyond very restricted limits; and it presented to them acts of daring and heroism which, however morally wrong, they could not but view, in their uneducated state, with admiration, and consequently to their education such reading as they got was bad instead of good. The result of his experience and observation was, that a reduction in the price of newspapers would drive out those immoral publications from circulation. He believed that pernicious publications had increased from the difficulty of buying a higher priced paper, and that a cheap newspaper press would rival them in interest. As to the extent of their circulation, he said that a definite answer could only be given by the proprietors from their own books, but that when we saw cartloads at a time leaving the publishing offices, we knew that it must be enormous, if we were wrong to a few thousands.

Mr. John Cassell, in his evidence, although he could not but admit that a vast amount of impure and demoralising trash issued from the weekly press, contended that in periodical literature generally there was a very perceptible improvement going on, arising from the better moral tone gaining ground amongst readers, and that if publishers were released from the penny stamp and paper duties, the influence of immoral publications would be effectually counteracted.

Mr. Abel Heywood, an extensive wholesale newsvendor and bookseller in Manchester, stated to the Committee his opinion that although a reduction in the price of newspapers would undoubtedly diminish the sale of pernicious literature, he did not believe it would entirely prevent it, and that they could not educate people so that there should not be found 10,000, 15,000

or 20,000 of people in this country disposed to buy it. He thought that the insertion of news tended to increase the circulation of periodicals. He was decidedly of opinion that a cheap newspaper would have an advantage in a competition with an immoral class of publications. He said the operatives would buy the cheapest paper; it was not a question of politics with them, but a question of prices; what the working man wanted was a record of the events of the current week.

The inference to be drawn from this evidence is, that the people encouraged low literature because it was more adapted to their means than that of a better class, and that the influence of cheap newspapers would be found to be most widely efficacious in checking the sale of immoral and vicious publications. We note, meanwhile, that the numerous efforts to supply a popular cheap literature made by Messrs. Chambers, Mr. Knight, and the Useful Knowledge Society, had not been without effect on the public tone of morality. An improvement was observable in public taste, and this had made its influence felt in the newspaper press.

The repeal of the Stamp Act and Advertisement Duty in 1856 gave an immense impetus to the publication of newspapers. The increased circulation of newspapers of a sound moral tone, filled with the most attractive reading afforded by accounts of current events, and accompanied by leading articles upon those events written with great ability, must have exercised during the last fifteen years a vast, deterrent, and ameliorating influence upon low literature. The following extract from Mr. Charles Knight's 'Passages of a Working Life,' will convey some idea of the change produced in the demand for newspapers by the abolition of the newspaper stamp and the advertisement duty. He observes:—

'I find amongst my papers a voluminous abstract of the state of the local newspaper press, which I drew out six months before the abolition of the stamp. In the forty English counties there were 120 cities and towns, omitting London, in which newspapers were then published. But in these there were 261 papers, the more important places having, in many instances, more than one such organ of intelligence.'

'The amount of the change which has been produced in eight years by the abolition of the newspaper stamp and the advertisement duty, in some degree also by the repeal of the tax upon paper, is sufficiently indicated by the following figures:—There were published in England, at the commencement of the present year, 919 journals. Of these, 240 belonged to London; and these included 13 daily morning papers, 7 evening, and 220 published during the week, at intervals. But these London journals, not daily, comprise the purely literary and scientific papers, the legal and medical, and more numerous than all, the religious journals. Further, since I made my abstract of local papers, there have started into flourishing existence no less than 32 district journals of the metropolis and its suburbs. Taking

these 240 metropolitan and suburban papers from the total 919 published in England, I find that there are now 679 country newspapers, instead of the 261 which I found existing in 1855. To finish this summary, I may add that Wales has 37 journals; Scotland, 140; Ireland, 140; the British Isles, 14; making up for the United Kingdom a total of 1,250. Of the aggregate circulation of these journals, it is impossible to arrive at any accurate estimate. At the beginning of the century the annual circulation of newspapers in England and Wales was 15 millions.

'In 1853, as shown by the Stamp Office returns, the annual circulation of England and Wales was 72 millions, and of Scotland and Ireland each 8 millions. But if we only assign a sale of 1,000 each to the 679 country papers in England, we have a total annual circulation of 235 millions. The Scotch and Irish journals will probably swell the aggregate annual circulation of the United Kingdom to 250 millions.'

The increased popularity of the press, however, though it did not drive pernicious publications out of the field altogether, circumscribed their range of operations. They have now scarcely any circulation amongst the classes to which they formerly looked for support. They have themselves improved superficially in tone, although they remain as vitiating in tendency as before. Short-lived efforts are made to revive prurient tastes in the public by the publication of such journals as 'Day and Night' and 'Day's Doings,' but without permanent success. The impure or vicious weekly publications form now the exception, and not the rule, in the daily reading of the working classes. We have now to deal with the low cheap literature of the present time. The class which engages our attention is that which is said to be most pernicious in its effects, viz., romances of the road, or criminal literature. There may be immoral tendencies in publications of a higher literary character, addressed to a wealthier class of readers, but with those it is not in our province to deal.

There are three firms which are engaged in publishing the largest proportion of the criminal literature of the present time. Their names are, 'The Newsagents' Publishing Company;' Mr. Harrison, Salisbury Court, Fleet Street; and Mr. Henry Vickers. We subjoin a list of the publications issued by the Newsagents' Publishing Company. Their titles are indicative of the nature of their contents. There are :—

Spring-heeled Jack, the Terror of London.
Wild Will; or the Pirates of the Thames.
Hounslow Heath, and its Moonlight Riders.
Dare-Devil Dick, the Boy King of the Smugglers.
The Poor Boys of London; or Driven to Crime.
Admiral Tom, King of the Boy Buccaneers.
The Wild Boys of London; or the Children of the Night.
Moonlight Jack; or the King of the Road.
Red Ralph; or the Daughter of the Night.
The Boy Detective; or the Crimes of London.
Black Rollo, the Pirate King; or the Dark Woman of the Deep.
The Confessions of a Ticket of Leave Man: being a Sequel to Lion Limb, the Boy King of the South Sea Islands.
The Young Apprentice; or the Watchwords of Old London.

Mr. E. Harrison's list contains, 'Black Bess, or the Knight of the Road;' 'Blueskin;' 'The Black Highwayman.'

The Temple Publishing Company, Essex-street, Strand, publish 'Starlight Nell, the Queen of the Highwaymen, or the Red Rovers of Hounslow Heath;' 'Captain Macheath;' 'Tom Turpin;' 'The Boy Pirate, or Life on the Ocean.'

Mr. H. Vickers issues, 'Life and Career of a London Errand Boy,' and 'Lively Adventures of a Young Rascal,' by John Bennett, Editor of the 'Police Record.'

H. Lee, Aldine Chambers, Paternoster Row, 'The Boy Brigand, or the Dark King of the Mountains.'

There are about thirty publications in all of the 'Black Bess' stamp, among which it has the most important circulation. There is a great mass of literature often classified with these by different writers, but examination discovers that its worst faults are silliness and utter worthlessness; qualities which it shares in common with much that is sold at a far higher price and read by 'highly respectable' people. Mr. Francis, who has devoted much labour and consideration to this subject, has exploded the popular fallacy that the criminal class of serial novels has a large sale. He states that they have an average weekly circulation of 7,000 each, and that this estimate includes the circulation of 'Black Bess,' which is calculated to be 30,000. The total issue is therefore 210,000, or, as he estimates, 290,000 less than the weekly issue of one of our newspapers. In comparison with the better literature of the day they have no popularity whatever. The adult artisan who was formerly content with them now finds deeper and more real sources of interest in his newspaper, and has consequently discontinued buying them. But there remain classes to whom newspapers do not appeal, and who have not had opportunities of cultivating purer literary tastes. It is amongst these that the serial penny novels drag on a feeble existence, and to them the purveyors of pernicious literature now address their efforts. The tone of the writers has improved upon that prevalent amongst their predecessors twenty years ago. It is found desirable, even in publications of the most debasing tendencies, to pay a tribute to the popular sense of propriety by a parade of moral intentions. Vice assumes an aspect quite as glowing and attractive as formerly; not, however, for the purpose of inculcating evil, but to warn the unwary of the dangers by which they are beset. The heroes, if they be criminals, are also in deference to popular scruples, punished for their iniquities at the end of the chapter. By such concessions to public opinion the writers and publishers of these periodicals seem to imagine they offer claims to popular favour and support. That such concessions are but a hollow pretext may be easily seen upon closer investigation. Around the death of the criminal is woven a halo of romance; throughout his career, as depicted in the penny serial novel, you are invited to admiration of his 'heroism' and 'ingenuity;' two qualities very estimable in themselves, but not suitable as examples to youth, when they are exercised in breaking

and evading the law. An effort is made throughout to enlist the reader's sympathies with the felon and to excite antipathy to the law as personified in those who strive to capture him. These insidious productions do not circulate amongst and are not addressed to adults, who by the aid of experience and the common sense which is usually born of it, might be trusted to escape the snare; they are read, as a rule, by ignorant shop and office-boys, young apprentices and factory hands, and by, perhaps, a small number of school lads. But limited as may be their circle of subscribers, their effect for evil is disproportionately great. The frequent signs of their malignant influence, perceptible in the police reports, have led the public to the erroneous conclusion that their circulation must be very wide. All authorities, however, whose opinions are of any substantial value in this matter, and who have arrived at conclusions from solid facts, and not from delusive appearances, agree in their statements that the alleged popularity of these publications is not supported by the actual state of the sales. They circulate in neighbourhoods where the demand for literature of any kind is very small, and where a portion of that demand is absorbed by the newspapers. Respectable newsvendors refuse to keep them, and they are sold only by the most inferior members of the trade. To tempt newsvendors and to encourage them to keep them in stock, they are issued at a much lower rate than the ordinary periodicals. The latter are sold at 7½*d.* or 8*d.* a dozen to the trade, the former at 6*d.* or 6½*d.*, with the option of returning unsold copies in exchange for those of later issues. A single penny number consists of eight pages royal 8vo., printed in double columns, on very inferior paper.

We have before us a quantity of these numbers. We find that the eight pages do not, when opened out into a sheet, occupy as much space as a leaf of the 'Daily Telegraph.' This newspaper consumes four times the quantity of paper, consists of six times as much printed matter and is sold for the same price. To effect a slight saving in labour and the use of types, and probably with an eye to literary effect, each sentence is arrayed in the dignity of a paragraph. Mr. Greenwood, the amateur casual, took the trouble to compare the weight of a number of gutter literature with that of a decent penny periodical. He states, that the weight of each number is a fraction more than a quarter of an ounce, and that the 'Leisure Hour,' at the same price, weighs eight times as much. They can only be obtained in the low neighbourhoods of London and various provincial towns.

The pictures are of a wretched description, both as regards artistic conception and workmanship. Each number is illustrated with one of these feeble productions, in which romance is travestied, and art brought to the chap-book level. These illustrations are often made to do double and treble duty. This fact in itself is sufficient to indicate the monotonous similarity which pervades the contents of these publications, and that one criminal romance is very much like another; while it also furnishes an explanation of the cause why they cannot compete successfully

with the light literature of a higher class, where more matter is given for the money, and the contents are more varied in character.

The literary merits of these wretched publications vary; in some a certain degree of skill and art is displayed; but in the majority the literary work is below criticism. As a rule, you may wade through a dozen without detecting a single specimen of true wit, pure pathos, genial humour, or happy description. Incident follows incident with exciting rapidity, interspersed with silly sentimentality, and weak attempts at scenic effect. The rate at which the writers are paid is in keeping with the quality of their work. We understand, on good authority, that they do not receive more than 5*s.* 3*d.* a page.

A prize lottery is a scheme frequently resorted to by the publishers to increase the attractions of criminal romances. At the best, it is a 'dodge;' in many cases it deserves the more severe definition of a swindle. These prizes, painted in language that an enthusiastic jeweller would scruple to use in describing the most elaborate and valuable articles in his lists, usually consist of inferior clocks, Brummagem watches, and sham jewellery. We say 'usually,' because, in many instances, they do not exist anywhere but upon the sheet in which they are announced in glowing terms. Two stamps are required to be sent in with the ticket. These furnish the funds for 'the prizes,' and leave a trifling bonus to the impecunious publisher for his trouble.

Such facts, then, taken in conjunction, viz., that the style of production is very inferior; that the quantity of matter is small for the money; that the wholesale rate of issue is lower than that at which other penny periodicals are sold to the trade; and that prize lotteries are got up to increase the inducements to purchasers, may be accepted as conclusive evidence, not of popularity, but of a bare struggle for existence in which all shifts are employed to keep the head above water.

The charges brought against these romances are—that they make heroes of the lowest criminals, and exalt offences against the law, and deeds of daring in the evasion of the law, into heroic exploits; and by enlisting the sympathies of their youthful readers with the individual and his career, thus blind the moral sense to a true perception of the iniquity and consequences of criminal offending.

It is an easier task, and a far nobler one, to induce youth to appreciate and imitate high-souled heroism, than to idealize the criminal daring and cunning of a felon.

The 'Daily News,' has observed that, "Some of the boy-criminals, whose degradation has startled society of late, have confessed that the hero-worship which these novels taught them, led them to take their first step in a criminal career."

This fact is not unknown to the writers and publishers of these low serials, for they have attempted to justify themselves. The celebrated author of 'Black Bess,' evidently smarting under the heavy strictures passed upon his degenerate branch of the

literary profession, has made a violent show of taking up cudgels in its defence.

He shallowly remarks,—"It is well known how the influence of time softens the asperities of all things, and it has not omitted to throw a gloss over the highwayman's exploits."

It is impossible that time can convert crime into virtue, although the writer of 'Black Bess' has endeavoured to suggest that result in the minds of his youthful readers by attracting their admiration and sympathy for a thief, whose life was one long offence against the laws of his country.

This subtle apologist proceeds to observe that, "The bold highwayman who cried, 'stand, and deliver,' upon the road, has got to be considered in the light of a species (what species?) of knight-errant, whose chief business was to redress such social wrongs as came under his immediate notice," &c. &c.

Some such doubtful tradition hangs over the memory of Robin Hood, but it is not generally understood, that Jack Sheppard, Dick Turpin, and the rest of their virtuous tribe, have gained any reputation as social philanthropists. He continues,—"Such then, being the case, it must be self-evident that it is not his obnoxiousness to the laws of the land, or the crimes of which he may have been guilty, that rivet the attention of the reader, but his courage, address, single-mindedness, and opposition of all kinds of oppression."

In the first place, if the novelist selects these dubious characters for the exhibition of the qualities he falsely attaches to them, why not go to some purer source whence he might obtain them untainted by such a predominant alloy of evil, and where they are employed in the pursuit of noble, or at least praiseworthy ends? On the face of it this excuse may be seen to be utterly false. And what can be meant by a thief's 'single-mindedness and opposition of all kinds of oppression?' Do law and justice constitute oppression? Or is perseverance in criminal offending, 'single-mindedness?' and skilfulness in relieving a man of his purse, or putting a bullet through his brain, and afterwards tricking the officers in their efforts at capture, 'address'? The villainy and courage are so insidiously blended that a youthful mind would fail to observe the distinction, and rather be led to admire both in conjunction. "We, ourselves," he asserts, "cannot for a moment think it possible that anyone, let him be ever so unreflective, would be ridiculous enough in these days to imitate their deeds."

As to the impossibility of such a result, it may be observed that, just as there are writers knavish enough to frame them into seductive romances, so are there boys sufficiently foolish and inflamatory to attempt them, as the police records continually demonstrate.

We will take this apologist's own 'popular' production for the purpose of illustrating the evil influence which this class of novel wields over the youthful imagination by drowning the moral sense in the interest excited for the criminal hero.

The first number of 'Black Bess' is clothed in a startling red wrapper embellished with a striking woodcut representing the highwayman in the act of suddenly reining in his horse before a gibbet, on which is suspended a skeleton in chains. The time is night, and a streak of lightning leaps out of the sky. With lavish generosity No. 2 is given away with No. 1, and, in addition, a large coloured engraving, entitled 'Dick Turpin and Tom King stopping the Royal Mail on Hounslow Heath.' It may be remarked that this lawless act is pourtrayed in the most attractive light, Tom King and Dick Turpin being evidently the masters of the situation; the other *dramatis personæ*, not being heroes, are crouching in absurd terror of the highwayman's pistols. The illustration on the first page represents 'Dick Turpin stopping the Lord Mayor's carriage.' It will be seen from the description of Dick Turpin, in the first chapter, that the reader is expected to regard him with admiration —

CHAPTER I.

DICK TURPIN WAYLAYS AND ROBS THE EX-LORD MAYOR OF LONDON ON WIMBLEDON COMMON.

THE rim of the rising moon was just peeping above the horizon, and a few faint, sickly beams of light shot up from it into the night sky, giving to all objects a dim, spectral-like appearance.

Standing in the middle of the high road which skirts Wimbledon Common on the north side was a horse and rider.

The moonlight shimmered upon both with a strange effect.

At first sight it seemed as though a lambent flickering flame was playing over them, from the horse's hoofs to the long feather in the rider's hat.

This was caused by the peculiar tint the vapours on the horizon gave to the moon's rays.

The horseman was leaning forward in his saddle in an attitude of intense listening.

There was something remarkably picturesque and romantic about him as he sat so still upon his steed in the centre of the deserted highway.

He was tall and muscular, and sat in the saddle with an ease and grace as rare as it was admirable.

His attire was well calculated to set off his figure to the greatest advantage; it was that so much affected by military officers in the reign of the second George.

A three-cornered black felt hat, trimmed with broad gold lace, and with a long black feather trailing from it.

A cravat of spotlessly white muslin tied in a large bow, with the ends depending almost to the waist.

A crimson-coloured coat, very long in the waist and very stiff in the skirts, trimmed and faced also with gold lace.

A waistcoat of the same materials and colour, coming low down on the hips.

Close-fitting pantaloons of white leather, and large black boots coming up high above the knee.

Such was the costume which he wore.

We have said nothing of the jewellery upon his person, and which glistened faintly in the moonlight. A refined taste would have considered there was a little too much of it.

Of the steed which he bestrode, and which was no other than the mare so celebrated in song and story—Black Bess—we feel it is perfectly unnecessary to say a word in the shape of description.

Her rider—whom we may as well at once call by name—Dick Turpin—had, at the moment we introduce him to our readers, one hand upon her neck.

We have said he was listening intently.

So Bess appeared to be, for her ears were projected forwards.

The lord mayor is robbed of a golden cup, and in this scene Dick Turpin is depicted as *débonnair* and humorous, whilst the

lord mayor, and his attendants, are portrayed as being in a state of most overwhelming fright. Before the hero can make his escape a body of mounted officers appears on the scene:—

His resolve was quickly taken.

With an exercise of that surprising agility for which he was so famous, he sprang like a harlequin through the window of the carriage.

He chose the side upon which the mayoress stood for the execution of this feat, because Bess was on that side of the way, and he alighted on the unfortunate Ezekiel with so much suddenness and force, that he fell flat down upon the road at once.

The soft, fat body of the ex-mayor broke the violence of his fall, and without even sustaining so much injury as a bruise, Dick sprang in a moment to his feet, and gave the signal to his mare.

She reached his side with a bound at precisely the same moment of time as the officers reached the carriage.

Dick placed but one hand upon her neck, and then vaulted lightly into the saddle.

He was seated in the twinkling of an eye.

"Surrender! surrender!" said the chief of the officers. "There's five hundred pounds for your apprehension, dead or alive. Surrender, or I fire!"

The only reply Dick made to this invitation was to give Bess the reins, and dash off along the road in the direction of the common.

As soon as the chief of the officers saw the movement, he cried in a loud voice—

"Fire!"

The simultaneous discharge of about a dozen pistol-shots followed his command.

Dick, however, was at rather too great a distance for them to be very effective, and they whistled harmlessly about and around him.

Then Bess put forward that speed which could not fail to leave any other horses far in the rear.

After firing the volley, the police took no notice of ex-Mayor Funge and his wife, but plunged forward as rapidly as their steeds would carry them.

It was exceedingly unfortunate for Dick that the moon was shining with so much clearness, as it enabled his pursuers to keep him steadily in view.

They were one and all exceedingly well mounted, and plied whip and spur most vigorously.

After the lapse of a few moments, Dick turned his head and looked behind him.

He was gaining rapidly on his pursuers, and must eventually, unless some unforeseen accident occurred, distance them completely.

He was quite sure of baffling them if he could but reach a small plantation, or rather wood, which was only a mile or two ahead.

He looked back again, and saw the officers were still farther in the rear, although they were goading their horses to the utmost in their endeavour to overtake him.

When he looked back again the next time, it was just as he was entering the wood.

They were then completely out of sight.

He trotted gently along a narrow glade.

A deep silence was everywhere around him.

We might multiply extracts to show that the agents of the law are repeatedly foiled, and that the reader is expected to rejoice at the hero's escapes. In No. 3, a terrific struggle takes place on the house-tops between Dick Turpin and a police officer in which the latter is killed by being thrown over the parapet.

When the deed is done, the hero simply remarks:—

Poor fellow! it's all over with him. I'm sorry, for he was a brave man, but it was his life or mine! Where shall I make my way now?

It is difficult to make extracts without consuming too much valuable space. The trick of printing every sentence like a paragraph, and of working out the most minute details in every scene occupies more room than we can well afford.

The last scene depicts the execution of the hero. Even here the writer, true to his pernicious craft, endeavours to paint the criminal in the most advantageous aspect.

It was just at this very moment that all the sea of faces and the other varied ob-

jects around faded from before Dick's eyes, yet there was no quailing in that last glance.

He knew, though, that consciousness was going.

"Are you ready?" he said, in a hollow voice.

These were his last words.

"Yes," said the hangman, descending a step preparatory to "turning the prisoner off," as the phrase then went.

The operation generally consisted in pushing the shuddering wretch off the ladder, and leaving him to dangle at the gibbet's beam until life became extinct by that most painful and cruel of all deaths, strangulation.

But the office was not performed for Dick.

No sooner had the hangman spoke the word than, with a sudden bound, he threw himself off the ladder.

There was a sharp and sudden jerk, a convulsive plunge, and then all was over. He who may justly lay claim to being the Prince of Highwaymen had in a moment ceased to be. All that remained of him was an inanimate mass of clay.

And so, bold and defiant to the last, the gallant highwayman met his fate.

The career of 'Dick Turpin' ends at page 2027, No. 254. The reader who follows the narrative from beginning to end will have expended the sum of eighteen or nineteen shillings in gratifying his curiosity for what is not worth five, as periodicals sell, and still less in a moral and literary sense. The concluding passages describe Captain Hawk, one of the thieving fraternity, as witnessing the last scene, and a continuation is promised in a second series.

Captain Hawk muses—

His face was bent towards the ground, and had upon it an expression of great pain.

"It was Fate," he said, "and who can control that? All is over now! Had I possessed the power, he would, instead of lying here, be safe and well. But no one can blame me because I failed"

After these words, the reader will have no difficulty in recognizing the speaker.

It was Captain Hawk.

He stood now only at the opening of one of the strangest and most vicissitudinous careers that ever fell to the lot of man.

But those vicissitudes and the strange events which happened on the night after Dick Turpin's burial cannot be chronicled here.

They will be found in the Second Series of Black Bess, which the writer confidently asserts will not be found inferior in the point of interest to the first.

'Black Bess' is by far the best of its class. The writer evidently possesses considerable literary skill, and cannot be accused of any attempts to excite the lower passions. His production is pure in those respects. But by combining in the nature of his hero, lawlessness and bravery, a humane disposition towards the weak and harmless, and determined violence against those whose righteous duty it is to secure him, he confuses the moral perceptions of his youthful readers, and leads them to the false conclusion that to follow the career of 'Dick Turpin is to imitate a romantic and heroic example. The merit of this work constitutes its greatest danger, and it is to be regretted that the writer has not put his powers to a more legitimate use.

That we do not exaggerate the disastrous results which follow from the sympathetic perusal of this literature, will be sufficiently proved by the following instances taken from police reports in the daily newspapers:—

Bow Street.—The Literature of Criminal Romance.—A youth of about seventeen, named Joseph Bennett, and a somewhat younger boy, named George Constable, were charged with breaking and entering the house of Messrs. Wigg and Oliver, architects, 7, Bedford Row, and stealing 5*l.* 10*s.* from a desk in the office. Mr. George Wyatt, chief clerk to Messrs. Wigg & Oliver, stated that on Tuesday afternoon he left

the office, locked the office door, and placed the key under the mat. On arriving at the office on Wednesday morning, he found Constable there before him. Constable went to his desk, and proceeded to open it, but it would only open a little way. Constable then said his drawer had been cut. A sum of 5*l*. 10*s*. had been taken from the drawer.

Police-constable Chamberlain, E 163, deposed: Yesterday afternoon about 4 o'clock, I went to 7, Bedford Row. I saw Mr. Wyatt in the office. Mr. Wyatt asked me to look at the drawer in the table. Constable was present. I asked Constable for the key. He said, "I have it; I took it home with me." Amongst the papers were some numbers of a weekly publication called 'Tales of Highwaymen, or Life on the Road," with coloured and other illustrations. I said, "That looks bad to read such things as these." He touched me on the arm and said, "Come outside, I want to speak to you." I went on to the landing with him, and he said, "I have been tempted to do this by reading the tales, and by a young man named Bennett, clerk to a solicitor in Furnivals Inn. He was in our office and saw the money and asked me to take it, adding that if I did not he would round on me and tell my master something. I believe he broke in last evening about seven o'clock. I knew he was going to do it, but I have not seen him since." I took him into custody.

A DESPERATE HIGHWAYMAN.—About a month ago great alarm was excited among the inhabitants of Newbury, Speen, and neighbouring places, by three cases of highway robbery committed after dark in the outskirts of the town by a masked individual armed with a pistol. In each instance the person attacked was highly respectable, and the circumstances were such as led to an investigation in the presence of the magistrates for the borough and the superintendents of police for the town and district. Evidence was taken proving that the highwayman had presented the pistol at his victims, and, under a threat that he would blow out their brains if they raised an alarm, induced them to give up their watches and money. The police instituted inquiries in various directions, and apprehended a woman suspected as an accomplice, an old coin stolen from one gentleman having been found in her possession; but evidence sufficient to justify her committal was not procurable. She accordingly obtained her release. Additional inquiries were attended with fruitless results; but on Monday night this modern Jack Sheppard was captured and lodged in the county lock-up at Speenhamland. It seems that a young man named Tyndell, living with his father on a lonely part of the road, between Speenhamland and Hatcham, was seized near his home on Monday night by a man whose face was partially covered, and almost immediately a pistol was presented to his head. A scuffle between them ensued. Tyndell struck aside his assailant's arm and the contents of the pistol were discharged in the air. Tyndell held tightly by the waist of the vagabond, and raised cries which brought assistance, whereupon the delinquent was conveyed to the county lock-up, and it was then discovered that the scoundrel who had thrown the neighbourhood into a state of nervous excitement was a youth about nineteen years of age, named Purdue, and by trade a painter, harmless in appearance, and not in the least suspected by the police authorities. The superintendent of the town police having ascertained that Purdue had kept company with a girl in service at Newbury, went and obtained from her a quantity of periodicals Purdue had given her, and upon examination they were found to include numbers of a romance entitled 'The Black Highwayman,' and a tale entitled 'Black Bess; or, a Knight of the Road.' There were also portraits of Dick Turpin, and a coloured illustration described at the foot as 'The Black Highwayman and Captain Hawk rescuing the Countess of Blacklake.' The men pourtrayed were masked in the style Purdue adopted. The occurrence of the name 'Captain Hawk' in the title of the illustration forms an important piece of evidence against Purdue as being the man who committed the three robberies, he having told his victims that if any one desired to know who had stopped them it was 'Captain Hawk.' But his identity is placed beyond all doubt, as Mr. Marfield, superintendent of county police, found upon him a watch, part of the proceeds of one of the robberies.

The Ordinary of Newgate states that the City prison is filled with 'lads of refined features, smooth hair neatly arranged, well clothed, well mannered, and having a thorough acquaintance with the use of books which they have been directed to bring with them to the service. The appearance of such boys in prison is at all times unusual, and always specially attracts my attention; it being unusual, prompts inquiry as to the circumstances and cause; it cannot be want, and I speculate in vain, and go to talk to the boys.' 'It was in this way I discovered that all these boys, without one exception, had been in the habit

of reading those cheap periodicals which are now published for the alleged instruction of the youth of both sexes.'

We have before us another specimen of the very lowest type of pernicious literature. It is a copy of an illustrated weekly newspaper called 'The Police News.' The front page is a mass of woodcuts, wretchedly drawn and engraved. At the top there are three illustrations of 'The Barnsbury Tragedy,' in which we have, 'The House,' 'The Murder,' and 'The Discovery.' 'The Murder' depicts a young girl in bed, and at her side an elderly woman about to cut her throat. In 'The Discovery,' the deed has just been committed, the young girl's throat is disfigured with a horrible gaping wound, and a woman is on the point of entering the apartment as the murderess quits her fearful work. In the second line of illustrations the horrors are somewhat modified, and there is nothing worse than 'Cruelty on board ship,' 'An artful monkey,' and 'Hairdressing extraordinary.' At the bottom of the page a third line of vile illustrations represents—'Horrid murder and suicide at Liverpool,' and 'Fatal end of a day's excursion.' The first of these is like a nightmare in its hideous character. A wretched, squalid garret at dead of night; in the bed are two figures, a man and a woman. The woman sleeps, but the man is sitting up, one hand clenching his temples, and the other presenting a pistol at the head of his unconscious partner. 'Fatal end of a day's excursion' represents another bedchamber scene, in which a man and woman are enveloped in flames.

This disgusting publication appeals to the poorer classes for support, and has a most demoralising effect. It familiarizes its readers with the foulest details of crime, and implants impressions which in some cases have culminated in acts similar to those depicted in its pages. In his report for 1870 the Ordinary of Newgate states the following case :—

"In the month of August last two soldiers were sent to Newgate for trial at the Central Criminal Court for the murder of their corporals ; one from Aldershot, and the other from Devonport. The Aldershot murder was the first of a series of military murders and attempts to murder, which followed each other in rapid succession, and excited much attention at that time. It was the topic of the week when it occurred, and the opportunity was not lost of making the deed itself the subject of a sufficiently accurate but hideous picture. *A newspaper containing this illustration* found its way into the guard-room at Devonport, at the time when private Taylor was there under arrest for breaking barracks. The picture was soon the subject of conversation, and as Taylor could not read, he gazed upon it, and in that way mastered the details of the Aldershot crime. On the following day, when undergoing punishment drill, the corporal in charge offended him, and Taylor committed a repetition of the Aldershot murder. He was confined in Newgate for more than five weeks, his trial having been postponed from the August to the September sessions. During that time I saw him and conversed

with him nearly every day. In speaking to me of the circumstances which led him to commit the crime, he said several times, '*That picture put it into my head.*'"

Not the least pernicious feature of 'The Police News,' is the advertisements. We append a few selected from the last page of of the number before us.

LAURA BELL: Life of a "Danseuse," 2s. 6d.; Aristotle's genuine edition, 30 plates, 3s. 6d.; Don Juan, 2s. Lists one stamp.

CONFESSIONS of a LADY'S MAID, 18 stamps. DON JUAN, 2s. Lists, 2 stamps.

THE GREAT SEER will reveal your future Seven years, 6 stamps; Lifetime, 12; Love Charm, 16. State your age. How to see your future partner, 2s. 6d. stamps. Methralton's Bible Key, 2s. 2d. Ghosts, Narratives, 408 pp., 4s. 2d. Jeremiah's Prophecy. Gratis.

TO THE UNMARRIED.—Any person sending 13 stamps and addressed envelope will receive within twenty-four hours a correct portrait of future husband or wife, date of marriage, and name of intended.

DESTINY.—IS EVERY HUMAN BEING DESTINED TO A CERTAIN POSITION IN LIFE? Can that position be foretold? To settle this question forward to ——— ———, Age, Sex, Single, or Married, who for 25 Stamps, will reveal the Past, Present, and Future during the whole of Life. Four Questions answered for 13 Stamps.

TO LADIES AND GENTLEMEN.—Address to Married Ladies, 13 stamps. Book on Over-population and How to Prevent it, 8 stamps. Ladies' Medical Almanack, 8 stamps. Catalogues of Physiological books for either sex, stamps. All sealed. Post Free.

HOW TO FASCINATE, and gain the respect, admiration, and undying love and affection of any one you wish. Messrs. ——— purchased this secret for one hundred dollars. I will send it to any address for 6 stamps.

THE FORBIDDEN BOOK. Complete and Illustrated, 3s. 6d. Aristotle, Aristotle, the Original Edition, 400 pages, contains the complete works of the noted Philosopher. Coloured plates, price 4s. Ten Nights in a Bar Room, 1s. 2d. The Mirror: or, Biddy's Cabinet, 1s. Aristotle's Masterpiece; or the Laws of Nature fully Explained, price 9d.

GIVEN AWAY TO NERVOUS SUFFERERS 20,000 copies of the "Warning Voice; or Private Medical Friend," on the self-cure of Nervous and Physical Debility, Loss of Appetite, Pains in the Back, Indigestion, Spermatorrhœa, &c. Illustrated with Cases showing the means by which the patient was restored to health. Sent to any address, on receipt

Several efforts have been made during the past year to start a class of publications very common in Paris, but which have not yet been able to attract much popularity in England. Under the pretence of cultivating and responding to a taste for art, these journals are illustrated with engravings in which decency is entirely left out of the question. The sensual passions are pandered to by the representation of female figures either nude or in suggestive half-dress. Of the two, 'Day's Doings,' and 'Day and Night,' one has gone out of existence, and the other has recognized the necessity of changing its name to 'Here and There,' and also of considerably modifying its original character. These indications are sufficient to prove that the sense of the great mass of the public is correct.

With reference to the means to be adopted for discouraging the

circulation of low cheap literature, we may observe, that several plans have been suggested and acted upon. The Pure Literature Society, established in 1854, is an influential organization for the object of supplying works of a pure and instructive character at a cheap rate to any who choose to apply for them. From the report for 1872, we learn that the monthly parcels of periodicals number upwards of 700, and these are sent to all parts of Great Britain, and some to France, Switzerland, India, Australia, etc. Assorted libraries are granted half-price "to working men's clubs, lending libraries, and also for hospitals, soldiers, sailors, Sunday schools, and other institutions, with a responsible committee or trustees, the books to be selected from the Society's catalogue." In 1871, 2,263 of these libraries were granted in the United Kingdom. The Society is enabled to make these grants by the aid of donations from its members, and it is from this feature in its operations that we arrive at the conclusion that it cannot gain more than a partial success. It appears to us that although a charitable society of this kind may pursue a widely useful career, and accomplish good work, it cannot combat effectually an evil of this nature unaided by wider and deeper influences. We have no desire to undervalue its functions, and believe that in so far as it partially checks this evil it can legitimately claim support. But until an educational system that will permeate the lowest classes with moderate culture and intelligence, has been put into force, until it is considered as a necessary part of such system that the reading tastes of the pupils shall be directed in healthy channels; and further, until it is within the power of the poorest to purchase or borrow *with facility* sound, clever, and attractive literature, this evil of modern civilisation cannot be vanquished. The formation of free libraries should be a compulsory duty imposed on every corporation. The plan of the Manchester Corporation might be adopted throughout the country, and care ought to be taken in the proper choice of books, and a sufficient number of the most popular should be purchased so as to give every applicant a chance of reading them within a reasonable time.

To every day school, especially those belonging to neighbourhoods in which the facilities for obtaining books are few, might be attached a small and well selected library containing literature suited to various tastes, but giving special prominence to that class which stimulates to energy and good ambition. Fiction, if it be of the right order, ought not to be excluded. Indeed, a library without works of entertainment would certainly fail in its objects.

The annihilation of criminal romance cannot be accomplished by direct suppression. It would be impossible to draw lines which should be so definite as not to afford the chance of evasion: and by making such literature illicit or illegal, its importance and circulation would probably be increased rather than diminished. There can be no doubt that, in obedience to natural causes, the sale is rapidly diminishing and the tone improving.

The immense increase in the circulation of newspapers, and cheap good periodicals arising from the repeal of the paper, stamp, and advertisement duties has dealt a blow from which it can never recover. It only remains for the State to devise and put in force a more complete educational system, and for municipal bodies to extend the free library system to finish the good work which has been forwarded by a free press.

In any review of the progress of cheap literature this melancholy spectacle of the existence of demoralizing publications concurrently with a wealth of pure literature unparalleled for excellence and cheapness, and embodying the highest efforts of genius in every department of human knowledge and research, must occupy a prominent place. It is a blemish in an otherwise magnificent picture of human progress. It appears more remarkable in the present than in any preceding age, since in the past the people had not any other source of literary entertainment and instruction accessible to them. But now the works of the great poets and dramatists, of the masters of fiction, and the lights of science are open to the poorest buyer.

Some idea of the activity of the British book press in the present generation may be formed from a glance at the number of publications brought out during the nine years 1863–71. The following estimate is arrived at from calculations made upon data furnished by the English Catalogue. There is reason, however, to believe that the work in question does not present by any means a complete list of the books published in England, and under this head we also find many that have no right in that classification. Many American works have a place in this catalogue, and, on the other hand, a great number of English ones are omitted. Accepting, however, this imperfect guide, we may derive from it a rough estimate of the number of books published in the United Kingdom. We find that in—

1863	were	published	3,920 works.
1864	,,	,,	4,620 ,,
1865	,,	,,	4,700 ,,
1866	,,	,,	4,600 ,,
1867	,,	,,	4,540 ,,
1868	,,	,,	4,770 ,,
1869	,,	,,	4,700 ,,
1870	,,	,,	4,770 ,,
1871	,,	,,	5,000 ,,
Being a total in 9 years of			41,620 ,,

Estimating the probable number of publications for 1872 at 5,000, we perceive that the aggregate number for the ten years 1863–72 exceeds that for the *thirty-six years* 1816–51 (viz., 45,072) by 1,542. The yearly average of the thirty-six years specified was 1,252, that of the ten years 1863–72 amounts to 4,662. The great proportion—it may be said nine-tenths—of the later publications come under the designation "cheap."

In addition to these we have a vast mass of literature issued in the form of newspapers, magazines, reviews, and other periodicals. There are 641 serials in existence at present in the United King-

dom. In 1863 there were 537. In London there are 262 newspapers of all kinds appearing at different intervals from daily to weekly, and 30 which come out fortnightly, monthly, or trimonthly. The provinces publish 1,192 newspapers. These statements may be compared with those extracted from 'Passages of a Working Life,' quoted at page 8 of this article. Such estimates do not take into account the great number of foreign and colonial publications supplied to this country in great numbers; nor the sources of reading furnished by various libraries, particularly those called 'free,' many of them containing vast accumulations of literature.

A consideration of these various suggestive facts leads us to the encouraging conclusion that the demand for superior literature is rapidly increasing, and they may also be accepted as a convincing proof of the growing intelligence of the people at large.

JNO. POWNALL HARRISON.

AUTHORITIES CONSULTED.

'Reports of Pure Literature Society,' 1869, 1870, 1871, 1872.
'Passages of a Working Life.' Charles Knight.
'Old Printer and Modern Press.' Charles Knight.
'The Bookseller.' 1868.
'Report of Select Committee on Newspaper Stamps,' 1851.

LEARNED SOCIETIES AND ACADEMIES.

THE class of associations for the culture of literature, science, and art to which in England we give the vague generic designation of learned societies, but which is generally known on the Continent by the more precise title of academies, cannot boast of any high antiquity. They were the creation of the renaissance, although their very name suggests if it does not claim a longer pedigree. It reminds us of that garden near the spot sacred to the hero Academus where Plato taught his divine wisdom to the disciples who hung upon the honey of his lips. Some, indeed, have seen in the museum of Alexandria a nearer approach to the modern type, but that famous school of philosophy has little real resemblance to the associations of modern *savants*. A closer approximation to the modern type is found at the court of Charlemagne. He attracted to himself the most distinguished and learned men of Europe, who formed themselves into a sort of a society where each one bore a name indicating his special studies, Charlemagne himself taking the name of King David. Closely connected with this was the Palatine School, where Alcuin lectured to a brilliant audience, including the sons and daughters of the Emperor, his Councillors, and Archbishops. There are other associations occurring in the middle ages which remind us of the modern societies, although they do not corre-

spond with any amount of exactitude. Amongst them we may mention the College of the Gay Science, founded at Toulouse about 1324, which was intended to promote the study of poetry by means of prizes given to the most eloquent of the troubadours, who assembled annually in friendly contest, and which, after many changes, still exists as the Académie des Jeux Floraux. This institution, along with the famous courts of love, whilst having similar aims to those of modern academies, lacked that permanence which attaches to the modern associations.

It is to Italy we must turn as the birth-place of the modern academies. The ardour with which classical literature was studied naturally led to the association of men of kindred tastes for the purpose of social intercourse and literary criticism. Cosmo d'Medici loved to gather around him in his palace the artists, poets, and learned men of his time, and at the suggestion of Pletho he founded an academy for the study of the works of Plato, to which was afterwards added Italian literature, and more especially the poetry of Dante. His successor, Lorenzo, greatly patronised this association: "In a villa overhanging the Towers of Florence, on the steep of that lofty hill crowned by that mother city Fiesolo, in gardens which Tully might have envied, with Faciano, Landino, and Politian at his side, he delighted his hours of leisure with the beautiful visions of Platonic philosophy, for which the summer stillness of an Italian sky appears the most congenial accompaniment."

Leonardo da Vinci established at Milan an Academy of Arts, dedicated more especially to the study of geometry.

The first society devoted to physical science appears to have been established at Naples in the year 1560; its president was the famous Porta, but the ecclesiastical authorities did not approve of academies for seeking out the secrets of nature, and promptly brought their labours to a close. Under Leo X the fine arts and literature were royally encouraged. The Roman Academy under his protection had 100 salaried professors. In these associations social pleasure, if not conviviality, played an important part. The rage for academies seems at this epoch to have taken hold of the Italian mind, and they sprang up with the celerity of mushrooms, and were often almost as ephemeral in their existence.

No less than 171 of these associations are recorded by Tiraboschi, some of them having titles suggestive of everything but great study and scientific research. Thus we have the drunken, the sympathetic, the pensive, the drowsy, the dissipated, and the Lynxes (of which Galileo was a member). The most famous of them all was the Accademia della Crusca (that is the Academy of the Bran), an allusion to the object for which it was instituted, that of separating the bran or chaff of the language from its fine flour. It was instituted at Florence in 1582, and published the first edition of its dictionary in 1612. Its device was a *sieve* with the motto, *Il più bel fior ne colgia.* The academy continued to the present century, but is said to be now suspended or

dead. In its rooms the chair backs are in the shape of a winnowing shovel, the seats are in the form of sacks, every member takes a name allusive to the miller's calling, and receives a grant of an estate properly described by metes and bounds in Arcadia. The good service which it has rendered to Italy by its dictionary, and by its efforts to preserve a high standard for the national language, are sufficient to make us excuse this childishness, and even to pardon its attacks upon Tasso. The Accademia del Cimento, instituted at Florence in 1657, was probably the first society for the real investigation of physical science. As its name implies, it was founded on strictly Baconian principles, relying upon experiment alone for the elucidation of scientific truth. The society was patronised by the Grand Duke Ferdinand II, the members assembling in his palace, and the royal host and his family taking part as equals in the meetings. The number of members was unlimited, and the only article of faith insisted upon was the renunciation of authority and the determination to seek after truth without regard to the conclusions of any previous school of thought. One of its members was Torricelli, the inventor of the barometer. Unfortunately the society only existed for about ten years.

In France Ronsard is said to have been the director of an academy which existed in 1570, and shortly after we hear of another frequented by "all sorts of excellent persons, even the first of the age." It was a time of great intellectual activity, as the literary reunions of the Hôtel Rambouillet and the other numerous social coteries abundantly show. One of these unpretending literary clubs attracted the notice of Richelieu, who appears to have been a sincere lover of learning, and thought that this society might be made a powerful instrument for national culture. His proposal to constitute them into a corporate body was received with much hesitation, and even when they consented, the Parliament of Paris, whose sanction was also necessary, showed itself very jealous of constituting a new power in the state. The King's letters patent were, however, issued early in 1635, but it took two and a half years to convince the Parliament that no danger was to be apprehended from the creation of this new literary tribunal, and with a view of limiting its powers it was expressly stipulated that it should pronounce judgment on no books save those which were submitted for its verdict by the free will of their authors. The chief aim of the French Academy was the improvement of the language; the members were to work with all the "care and all the diligence possible in giving sure rules to the language, and rendering it pure, eloquent, and capable of treating the arts and sciences."

The French Academy may claim the honour of being the first learned society regularly constituted and endowed with all the privileges of corporate existence. The great dictionary of the French language which was to have been its principal work remains still unfinished, and probably the chances of its completion are much less now than they were 200 years ago.

A dictionary of a less elaborate character, and intended more for common use was brought out, the first edition being published in 1694, and various revisions of it have since been issued. The number of members was limited to 40, and a vacancy in its ranks causes the liveliest competition. A seat at the Academy has always been considered as the crowning glory of a literary life in France, the greatest reward which the nation can bestow, and notwithstanding the occasional admission of inferior men, and the exclusion from political and other motives of others who would have added lustre to its ranks, the roll of the Academy contains some of the most illustrious names in French literary history. The rejection of Molière, Boileau, and La Bruyère are, nevertheless, disgraceful episodes in its history. The Academy is remarkable less for the value of its publications than for the distinguished part which its members have taken in literature and politics. It was intended to be a sort of high jury to regulate by its authority the literary activity of the time, to give it a healthy tone, and to speak with authority to the outside public upon those matters with which it concerned itself. The approbation of the Academy is one of those prizes to which the young author looks forward; he is certain of finding there a tribunal, conservative in tendency, not always uninfluenced by current prejudices, but indisputably competent. Although generally fair, and even generous, its decisions have sometimes been laughably wrong, as in the case when it censured the Cid of Corneille.

Louis XIV was inordinately vain, and his courtiers may be said to have reduced flattery to a science. Pleased with the external symbols of triumph he erected numerous monuments lest posterity should forget the grandeur and glory of his reign.

Some literary men, mostly members of the French Academy, were entrusted with the high and honourable task of drawing up fulsome inscriptions in praise of the deeds of the great King. Such was the ignoble beginning of the Académie des Inscriptions et Belles Lettres, which afterwards extended its studies to worthier objects and has contributed in no mean degree to the progress of archæology. In 1666 the Académie des Sciences was organised under the protection of Colbert. The next year gave birth to that of painting and sculpture, followed in 1671 by that of architecture, and in 1672 by the Academy of Music. The taste for these institutions was not confined to Paris, but extended very rapidly through all the provinces. Indeed, as early as 1536 we find a Society of Science and Arts in existence at Bourg, which furnished three members to the French Academy at its first formation. The revolution, which spared nothing, suppressed all these associations at one blow, confiscating their goods and making their debts national. This was in 1794.

The revolution was not solely destructive, for it is to the National Convention that France owes her famous institute, which is unique amongst associations of this nature.

"Many countries," says Rénan, "have Academies which may

rival ours by the fame of their members, and by the importance of their works. But France alone has an institute where all the efforts of the human mind are bound together in one sheaf; where the poet, the philosopher, the historian, the philologist, the critic, the mathematician, the physician, the astronomer, the naturalist, the chemist, the lawyer, the sculptor, the painter, and musician, may call themselves comrades."

The object of the Institut is the progress of science, it has its budget, its prizes, its patronage. To a large extent the Institut is the successor of the Parisian Academies we have already named. Various modifications have taken place in its organization, at present it is composed of five academies.

FIRST.—The Académie Française, restricted to 40 members, and holding its private meetings weekly, and annually in May a public reunion in which are distributed various prizes. Some of these emanate from the Academy, others have been founded by various individuals, for instance, the prize for virtue by Montyon, and the Gobert prize of 10,000 francs for the most eloquent work relating to French history.

SECOND.—The Académie des Inscriptions et Belles Lettres, having 40 titular members; 10 free members, 8 foreign associates, and 50 corresponding members.

THIRD.—Académie des Sciences having 65 titular members, 10 free members, 8 foreign associates, and 92 corresponding members. This Academy is subdivided into 11 sections, the members of which severally devote themselves to geometry, mechanics, astronomy, geography and navigation, general physics, chemistry, mineralogy, botany, rural economy, anatomy and zoology, medicine and surgery. It is the heir of the old Academy of Sciences, many members of which where included amongst its founders. Nor is it an unworthy successor, for if the older body could boast of D'Alembert, Buffon, and Lavoisier, the new one has had Fourier, Cuvier, Ampère, and Saint Hilaire, not to mention any of the illustrious men who are at this moment among its ornaments. The object of the institution was to perfect the sciences and arts by uninterrupted research, by the publication of new discoveries, and by correspondence with other learned societies. It was to follow a line of scientific work which had for its objects general utility, and the glory of the Republic. In 1802 the First Consul invested it with a power of nominating one of three candidates from which the Government were to choose the professors in the special schools. This whilst a tribute to the Academy in its character of supreme authority in scientific matters had the practical disadvantage of bringing it from its proper sphere of study and research into the unquiet atmosphere of everyday politics; while it has since given rise to many suspicions of unfairness, and excited the hatred of all disappointed candidates. The prizes which it distributes are numerous and their adjudication forms an important part of its functions.

FOURTH.—The Académie des Beaux-Arts having 40 titular members, 10 free members, 10 free associates, and 40 corre-

sponding members. It has published a Dictionary of fine art, and distributes various prizes.

FIFTH.—Académie des Sciences, Morales, et Politiques, having 40 titular members, 6 free members, 6 foreign associates, and from 30 to 40 foreign correspondents. This Academy, originally a class of the Institut, was suppressed by Napoleon, who did not favour the discussion of philosophical subjects which might have an inconvenient political bearing. It is divided into 6 classes; philosophy; morals; legislation, public law, jurisprudence; political economy and statistics; history, general and philosophical; politics, administration and finance.

Each of the Academies composing the Institut has its own President and officers and elects its own members, each election, however, has to be confirmed by the head of the State, a confirmation which was twice refused by Louis XVIII. In the French Academy there is no decree, but the new member is presented to the Sovereign. In 1852 Berryer declined to be presented, but the refusal did not invalidate his election.

In England, as early as 1572, there appears to have existed an Antiquarian Society, founded by Archbishop Parker, and having for its object the preservation of the ancient monuments of the nation which the dissolution of the monasteries had placed in peril. If this was the object, its members were either extremely remiss, or very unfortunate. Some of the papers read at their meetings have been published. The society was dissolved by James I in 1604. About this time we find various proposals for a National Academy, or College of Learning. Bacon's description of Solomon's house in the New Atlantis shows that his attention had been turned to this subject. About 1617 Edmund Bolton presented a petition proposing the establishment of an institution to be entitled King James, his Academy of Honour. The King is said to have been favourable to the project, but his death took place before the undertaking was completed. Charles I, notwithstanding the troubles of his reign, intended to have instituted a college, or academy, under the name of "Minerva's Museum" for the instruction of the nobility in the arts and sciences.

Cowley also has left a scheme for a Philosophical College, the members of which were to devote their entire lives to research. About 1645 a number of learned men mutually acquainted with each other, were in the habit of meeting weekly, sometimes at the Bull's Head Tavern, in Cheapside, and sometimes at Gresham College, for the purpose of discourse relating to experimental philosophy.

"Our business," says Dr. Wallis, "was (precluding matters of theology and state affairs), to discourse and consider of philosophical enquiries and such as related thereunto." He then gives some examples of these questions, all pertaining to physical science: "Some of which were then but new discoveries, and others not so generally known and embraced as they now are, with other things appertaining to what has been called the New

Philosophy, which from the times of Galileo, at Florence, and Sir Francis Bacon (Lord Verulam) in England, hath been much cultivated."

Some of the members of this club having removed to Oxford, formed a similar society there, the results of the principal labours of each society being communicated to the other. At the Restoration these meetings resolved themselves into a regular association to meet weekly, and for the defraying of expenses it was resolved that every one should at his first admission pay 10*s.* and 1*s.* weekly, whether present or absent. The King was well disposed towards the new society, and in answer to their petition granted them a charter of incorporation which past the great seal on the 15th July, 1662, constituting them the Royal Society for the Improvement of Natural Knowledge. It has been said, and we think justly, that this was the only wise action of Charles II. In 1664 the charter book was opened, the first page contains the arms of England emblazoned on vellum, then follow those of the Society itself, after which comes the second and third charters and statutes. The first autograph portion of the volume contains the signature of King Charles, the founder, the Duke of York and Prince Rupert as fellows, followed by autographs of various foreign ambassadors, after which we have on separate pages (and as signatures of the obligation) the names of the fellows, including Clarendon, Boyle, Pepys, Flamstead, Newton, &c., &c. It would be quite impossible, within our limited space, to give anything approaching to a history of this famous Society which has probably done more for physical science than any body in Europe. Some of their early investigations appear to be trifling when viewed in the light of the present day. Thus at meetings of the young society, we find their president, Sir Robert Moray, bringing before them a relation concerning barnacles breeding geese; mention was made of "a boat that will not sink;" of a place in Brazil where there is a wood that attracts fish; and of the fish that turns to the wind when suspended by a thread. The production of young vipers from the powder, and the liver and lungs of vipers was also mentioned; Sir Gilbert Talbot promised to bring in what he knew of sympathetical cures; the Duke of Buckingham promised to bring in to the Society a piece of Unicorn's horn; Sir Kenelm Digby related that the calcined powder of toads reverberated applied in bags on the pestiforate body cures it by several applications. On another occasion four Doctors were appointed "to *torment* a man presently with the sympathetical powders," and Sir Gilbert Talbot gave relation of a cure by sympathy which may be worth repeating as an example of the medical wisdom of our ancestors.

"An English mariner was wounded at Venice in four severall places so mortally that the murderer took sanctuary; the wounded bled three days without intermission; fell into frequent convulsions and swounings, the chirurgeons despayring of his recovery forsook him. His comrade came to me, and desired me

to demand justice from the Duke upon the murderer (as supposing him already dead); I sent for his bloud and dress'd it, and bad his comrade haste back and swathe up his wounds with clean linnen. He lay a mile distant from my house, yet before he could gett to him, all his wounds were closed, and he began visibly to be comforted. The second day the mariner came to me, and told me his friend was perfectly well, but his spirits soe exhausted he durst not adventure so long a walke. The third day the patient came himself to give me thanks, but appeared like a ghost; noe bloud left in his body."

In 1669, Cosmo III visited England, and his Secretary has left a curious account of the meetings of the society, and of the museum, which under the care of Dr. Hook, seems really to have contained some remarkable curiosities; amongst them he mentions "an ostrich whose young were always born alive (!); an herb which grew in the stomach of the thrush, and the skin of a moor tanned with the beard, and hair white."

An experiment was made about this date as to the effect of transfusion of blood of a sheep into a man, which was looked upon as little short of a method of obtaining immortality. On the 21st December, 1671, the Bishop of Sarum proposed as candidate Mr. Isaac Newton, then Professor of Mathematics at Cambridge, and on the 11th January following he was elected a fellow. At the commencement of 1673 the Council minutes record an intimation from him of being in such circumstances that he desired to be excused the weekly payments, and it was agreed by the council that they should be "dispensed with, as several others were." Newton's grand discoveries were communicated to the Royal Society, which now possesses some interesting relics of the great philosopher, amongst others, the manuscript of his "Principia," and the first reflecting telescope, invented by him and made with his own hands in the year 1671. How little did the poor Cambridge student, who had to beg for the remission of his subscriptions, foresee his future wealth, and that for many years he should be the President of that Society, and that the fact of his occupying that position would be its greatest glory.

An analysis of the List of the Royal Society for a recent year (1870) shows that the number of fellows was then 544, of whom only 165 had contributed to the publication of the Society. The number who had received the Copley Medal was 12; the Rumford Medal, 6; the Royal Medal, 42. There were in that year 50 foreign members, of whom 14 had received the Copley Medal, and two the Rumford Medal.

Every candidate requires to be proposed and recommended by six or more fellows, and from the persons so proposed the Council select fifteen names annually for recommendation to the Society, and although the Society has the power to disregard the recommendation practically the persons nominated by the Council are invariably elected. The entrance fee paid by each fellow is 10*l.*, and the annual subscription is 4*l.* The Society since 1850 has

received an annual grant of 1,000*l.* from Government. It has also received various legacies. It possesses a library containing about 50,000 volumes, and especially rich in scientific journals, transactions, and publications of Academies. These have been turned to account in an immense work now progressing under the auspices of the Society, a catalogue of memoirs of a purely scientific nature contained in these publications, from 1800 to 1863. This was intended at first to remain in manuscript for the use of the fellows, but, aided by the Government, the Society has undertaken the gigantic task of printing it, and the greater part of the alphabetical arrangement has already appeared, to be followed in due course by the still more important classified arrangement which will constitute a map of scientific progress in the nineteenth century. The papers read before the Royal Society have been published under the title of "Philosophical Transactions." This periodical was first issued in 1665, under the editorship and by the authority of Henry Oldenburg, its first Secretary, and has been continued with few intermission. Since 1752 the Council have taken in hand the selection of the memoirs to be printed in place of leaving it, as had been the case up to that time, to the discretion of the Secretary.

Three medals are annually offered by the Society. The first of these, the Copley medal, is the highest honour the Society has the power to bestow. It results from a legacy left by Sir Godfrey Copley, one of its oldest members, of 100*l.* He died in 1704, but it was not until 1736 that the interest was applied to the purchase of a medal. It is not restricted to any particular branch of science, but is awarded to any discovery which appears to be of sufficient importance, and the most distinguished names connected with science have been amongst its recipients. Franklin, Smeaton, Cavendish, Priestly, Rumford, Volta, Davy, Brodie, Brewster, Sabine, Airy, Varley, may be mentioned amongst those who have gained it. There are two Royal medals, the first of which was awarded to Dalton for his development of the atomic theory. There is also the Rumford medal, founded by Benjamin Count of Rumford, who in 1796 presented 1,000*l.* of stock in the national funds, the interest to be applied as a premium to the three of the most important discoveries and useful improvements relating to heat or light, the preference always being given to such discoveries as tend most to promote the good of mankind. In accordance with the donor's wish, the recipient obtains two medals, one gold worth 60*l.*, the other of silver worth 4*l.*, and the balance of the interest in money.

The Royal Society long remained the sole national philosophical institution, and it is to be regretted that some method of expansion was not devised preferable to the creation of a series of rivals in detail. The project of encouraging the Arts and Science which afterwards took form as the Society of Arts was submitted to the Royal Society, but was not received with favour. The supremacy of the Royal Society was more endangered by the Linnæan Society (1788), which trenched much

more upon its domains than the Society of Arts. The creation of these new societies was not looked upon with much complacency by the parent society; the foundation of the Astronomical Society (1820) having in particular been opposed by Sir Joseph Banks and other influential persons in the Royal Society.

The Statistical Society may be said to have originated in the visit of Professor Quetelet to attend the meeting of the British Association. Quetelet brought with him from Belgium some highly interesting statistical documents, which were not exactly admissible in any of the then existing sections. Some lovers of statistical science having been invited to hear them read at the college rooms of the Rev. R. Jones, Professor of Political Economy at Haileybury, they resolved, on the suggestion of the late Charles Babbage, to form themselves into a statistical section, and then apply to the Council for a bill of indemnity. The interest excited by this section was so great that a resolution passed affirming the desirability of a permanent society, and chiefly under the influence and guidance of Babbage, the intention was successfully carried into effect. It is curious to find that a year earlier a statistical society was founded in Manchester, where this class of studies has always been in favour.

The Royal Society of Literature may be named as an attempt to naturalize the literary academy in England. It owes its origin to George IV, who was not without literary tastes, and who entrusted to Bishop Burgess the task of organizing an institution for the advancement of literature. A full detail of the labour which attended its launch has been given by William Jerdan, who was one of its promoters. George IV promised a donation of 1,000*l.* to the new society, and the good Bishop, misconceiving his intentions, proclaimed at the preliminary meeting the King's intention to subscribe that sum annually. This being a somewhat royal act was duly trumpeted abroad, and the King had no escape. Probably he never spent money more wisely. It enabled the society to elect ten Royal Associates, each of whom received a pension or salary of 100*l.*, and amongst the ten were S. T. Coleridge, William Roscoe, T. R. Malthus, Sir Wm. Ouseley, aad Sharon Turner. The society was modelled (but not slavishly) upon the Académie des Inscriptions, and proposed to (1) publish inedited remains of ancient literature, (2) promote discoveries in literature, (3) endeavour to "fix the standard as far as possible, and to preserve the purity of our language by critical improvements of our lexicography, (4) reading of papers, (5) assigning honorary rewards to works of great literary merit, (6) establishing a correspondence with learned men in foreign countries. The death of George IV unfortunately deprived the society of the funds requisite for some portions of this scheme, and so prevented the fair trial of the possibility of acclimatizing this species of academy in England. The first prize of the society was won by Mrs. Hemans, and amongst those who received its gold medals were Cardinal Mai, Schweighäuser, Dugald Stewart, Southey, Scott, Crabbe, Roscoe, Silvestre de Sacy, Hallam, and Irving. It continued the publica-

tion of Young's "Hieroglyphics," and published Mr. Wright's "Biographia Britannica Literaria," a work to which every student of English literature is indebted. The transactions contain many valuable papers, especially in the field of Egyptian investigation. The society was bitterly opposed by Macaulay, who devoted one of his youthful essays to its denunciation. But it may be well to recollect that the doctrine of *laissez-faire* has its limits, and that there is no reason why honorary rewards should be confined to soldiers and scientific men. That the society was tolerably free from party bias may be seen from the fact which Jerdan has recorded, that its President, the Bishop of St. David's, was the proposer of the Rev. Nicholas Wiseman, then Pro-Rector of the English College at Rome, afterwards Cardinal, and the greatest Roman Catholic authority in England.*

There is another society which it would be unpardonable to leave unmentioned, as it is of a special type, and has done more both in encouraging scientific tastes, and in direct scientific research, than all the others put together. We mean the British Association for the Advancement of Science. Sir David Brewster was the founder of this society, which was probably suggested by the annual meetings of the German naturalists. It was established in 1831, and meets annually in one of the large towns, its session extending to nine or ten days. It is divided into sections, which include the entire extent of physical and economic science, each presided over by some eminent savant, and in these sections the members read the results of their latest inquiries. It has been well called the Parliament of Science. Beyond the communication of the papers, which contain the latest information as to individual research, the Association devotes the largest part of its income to defraying the expenses of such inquiries as cannot well be carried out by private enterprise. The Association publishes a volume annually, containing the reports in full of the Committees appointed to deal with various subjects of research, and abstracts of the papers read in the sections. The number of members is very large; there are certain classes, *e.g.*, fellows of chartered societies publishing transactions, who can claim admission on payment of the admission fee and subscription. There is also a class of Associates who are elected for the current meeting only. The number attending the Brighton meeting in 1872 was 2,533. The sections are A, Mathematical and Physical Science; B, Chemical Science; C, Geology; D, Biology (1. Anatomy and Physiology; 2. Anthropology; 3. Zoology and Botany); E, Geography; F, Economic Science and Statistics; G, Mechanical Science. Beyond the scientific value of these meetings they have great social charms, and tend to promote a feeling of kindly brotherhood amongst those who take part in them. They serve also to enlarge the views, and to remind the specialist that the world is not confined to the little spot of earth he cultivates. Those who believe in the solidarity of science, and strive to

* Jerdan's account will be found in his "Autobiography." Lond., 1852, iii, 152. Harford's "Life of Bishop Burgess," 1840 (p. 342), contains a less detailed account.

pursue it in that spirit find here food for generalization. The intellectual impulse given by these meetings must be very great. In the world of mind, as in the world of matter, friction produces flame.

To attempt any description of the provincial societies would require more space than we have at command. There is scarcely a town of importance without its literary and philosophical society. Some of them issue transactions, which occasionally contain communications of great importance. Perhaps the most notable of them all is that of Manchester, before which Dalton first explained his atomic theory. Its roll of members contains the names of Eaton Hodgkinson, Robert Owen, Fairbairn, Joule, and many others distinguished in science and general culture. As in most of these societies, literature, although in the title, is very meagrely represented elsewhere. The history of the Natural History Societies of Lancashire, forms a curious and interesting episode in the history of learned societies. Mainly composed of working men they were the means of aiding the culture of that remarkable group of self-taught scientific men, of whom the cotton district may well be proud. The opportunities for scientific observation which fall in the way of working men are many, but for want of interest in these ennobling pursuits, and from want of the knowledge requisite for their prosecution, the artizans fail to contribute so much to the advancement of learning as might be expected. It is only fair to add that in many of the existing societies the fees are so high as to exclude this class. This is to be regretted, for the distinctions of class and rank should have no place in the republic of learning. It is therefore with pleasure that we call the attention to the conduct of the Paisley Philosophical Society in this matter, as explained by its President, the Rev. Wm. Fraser, in the report for 1865.

"We have introduced some changes, to which I beg special attention as probably new in the working of such societies, and as conducing to their greater efficiency and public value.

"In our larger towns two plans are invariably followed, the one represented by Philosophic Societies, the other by Mechanics Institutes, and both are doing good; but the one is too limited and exclusive, the other too general and indefinite. They work within separate circles; and outside both, there are always in a large community like this many studious working men who, apart, prosecute with enthusiasm and scientific exactness the pursuits in art, philosophy, and natural science. We have for several years been endeavouring to draw them into the fellowship of close and systematic study, and so to preserve the results of all their separate labours as to make them available for the public benefit. We seek to combine what otherwise would be desultory, and to preserve what otherwise would be lost.

"The society has been divided into distinct sections, to each of which is entrusted the exact prosecution of but one course of inquiry. Members attach themselves to whatever section best

meets their tendencies or previous training, and, gradually ascertaining where kindred students are labouring in the community, draw them into their fellowship. Lest the annual payments of the society might press too heavily on working men it was arranged last year to admit associate-members who should be entitled to all the benefits of the society, except its management, on the payment of such a fee as is ordinarily charged in Mechanics' Institutes. We are indebted to the zeal and practical sagacity of Mr. James Cook for much of the efficiency of this combination. The plan is working admirably, and we hope to see drawn into our sections many of our most thoughtful young men whose studies will be greatly facilitated by the experience and willingness of our senior members. While we are benefited by kindly intercourse in a wider brotherhood, and promote the extension of close and systematic study, we, at the same time, in preserving the results given by each section, lay the basis of a public museum which may be of permanent interest to the naturalist, the antiquarian, and also to the political economist, in as far as it may represent the skilled industry of the country."

Having thus briefly sketched the history of learned societies, and given some details of typical examples, we may turn to a general survey of the objects of these associations, the manner in which they attempt to attain them, their internal mechanism, and lastly to ask whether their present organisation is satisfactory or susceptible of improvement, and in what manner.

Academies have played an important part in the history of culture, and are probably destined to be of still greater service in the future. Certainly, they were never more numerous, or more active than at the present time. It is impossible to estimate with anything like positive accuracy the number of them at present in existence; but having taken some pains to register the names of all such associations as have come under our notice, we offer the following, as the best approximation we have been able to make :—

ASIA.

India	16	St. Helena	1
China	4	Mauritius	2
Egypt	4	Ile de la Reunion	1
Cape of Good Hope	3	Turkey	13

AUSTRALIA, 13,

EUROPE.

Austria	128	Holland	37
Belgium	81	Norway	11
Denmark	13	Portugal	6
France	521	Russia	80
Germany (Prussia)	125	Spain	37
,, other States	225	Sweden	13
Great Britain	184	Switzerland	64

AMERICA.

States of South America	14	United States	55
Canada	3		

On roughly classifying the British societies, which are pro-

fessedly national in scope, we find 5 devoted to general science, 1 mathematical, 1 meteorological, 1 chemical, 2 geological, 1 geographical, 4 botanical, 3 zoological, 14 medical, 7 dealing with applied science, 1 with social science, 2 with statistics, 1 with anthropology, 2 devoted to law, 7 to fine arts, 2 to architecture, 12 to archæology and philology, and 2 to education; a total of 68 societies, having their seats with two exceptions, at the capitals of the three kingdoms, but general and not local in their claims and character.

What is the principle upon which these associations are constructed, what is their common aim, and what is the method by which they seek to attain it? The object of all academies is culture, the advancement of learning, the increase of the sum total of human knowledge, and however much they may vary in points of detail the method in all is essentially the same. The social instinct has pioneered the way. What at first were mere casual gatherings of a few friends to chat over the progress of learning, and to compare notes on their several studies and researches, have become consolidated into grave corporations, with serious aims and responsibilities. The lovers of experimental philosophy who met for conversation at the Bull, in Cheapside, could scarcely have anticipated that their meetings would lead to the foundation of an institution which has played so important a part in the world of science as the Royal Society.

A learned society is a voluntary association for the promotion of some branch of human culture. Such a union must, in the nature of things, have originally consisted of experts, and hence admission to its ranks is looked upon as a sign that in the opinion of those best qualified to judge, the person admitted is already familiar with the mysteries of the particular science to which the society is devoted. Each society must guard jealously against the admission of unsuitable persons for the sake of its own usefulness, and to avoid becoming an object of public contempt. A "learned society" composed of unlearned men, and charlatans would be neither useful nor respected. Originally the motive of these associations was to *acquire* knowledge, and a member of one of them might hope to keep fairly abreast with the progress of his own branch of study by the interchange of ideas which they facilitated. In the present day there are so many facilities for the publication of new ideas, that this is no longer the case. It would be in vain to seek alone in the "Transactions" of the Geological Society, for a record of the progress of that science in Great Britain. The evidences and instruments of our advances in that direction are scattered in a wide diversity of books and periodicals. The societies now chiefly devote themselves to the communication and discussion of new facts and ideas. They afford an audience, fit, although it may be few, before whom the savant may bring the result of his studies which would otherwise fail in finding a jury willing to hear and capable of pronouncing a sound verdict. Although this is a reading age, and we are constantly told that the thinker and author

have no longer need of a patron, it is nevertheless true that many valuable scientific monographs which are gladly welcomed by societies and printed in their "Transactions" would otherwise fail to get into print at all, or if they did pass the press would only cumber the booksellers' shelves. For popular science there is perhaps a sufficient public, but for original research, which is not always couched in language that can be read running, for books which the author has thought over with hard thinking, and which require a similar exertion of intellect on the part of the reader, the public is still too small to be relied upon; and it is an unfortunate fact that this difficulty will be in proportion to the depth and originality of the work. Mr. Sargant has mentioned some examples of this nature, but it will be sufficient for any one to look at the contents of a volume issued by almost any of our learned societies. The impossibility of finding publisher and public for these papers will be immediately evident, and not the less evident will be the learning, the research, the patient toil, the labour of head and hand which have been necessary for their production.*

Learned societies vary greatly in object and composition, some of them being professional, as the Royal Institute of British Architects, the Institution of Civil Engineers, the Medical and Chirurgical Society, &c.; others, again, dealing with branches of science chiefly interesting to certain classes, as the Society of Arts, the Horticultural Society, &c.; but the greatest number are unconnected with any particular section of the community, and seek support from the lovers of learning and science at large. The professional societies have some advantages of their own. The members have, with few exceptions, undergone a systematic training, and have daily not only opportunities but necessities for continued investigation. A medical man, for instance, is forced to the continual, daily, unintermittent study of medical science. Each case he undertakes he can make a means of extending his knowledge. The antiquary, the philologist, on the other hand, as a rule, pursue those studies in the leisure of lives which are often actively spent in other pursuits. The professional societies have thus a considerable advantage, they have the less to fear from crude notions, and when such are introduced we may expect them to be received with less favour than elsewhere. On the other hand, *esprit de corps* is apt to degenerate into blind conservatism and a Philistine dislike of new ideas and new methods.

English learned societies may be divided in another way—into chartered and unchartered. The unchartered societies are by far the most numerous, but they have no assured permanence, it is

* Mr. Sargant, who is well known as a thoughtful writer on Political Economy, in his Essays of a Birmingham Manufacturer (vol. iii, 1871), has suggested the formation of a new Academy, or rather the establishment of an Order for the encouragement of philosophical and literary merit. The difficulties in the way are very great, but there seems to be a general feeling that something of this nature is needed; and those who sneer at the notion of a "literary knighthood" should, to be consistent, object equally to the honorary distinctions which are granted to soldiers and courtiers.

doubtful whether they have any legal existence, they may be dissolved or modified in any way that the wish of the majority may dictate. The incorporated societies, on the contrary, have their object definitely set forth in their charters; they are public corporations, with all the privileges, immunities, and responsibilities of such bodies. The Royal Society was formally founded in December, 1660, and chartered in 1662; the Society of Antiquaries originated in 1707, but not incorporated until 1751; the Linnæan Society, founded in 1788, was chartered in 1802; the Geological Society, established in 1807, was incorporated 1826; Royal Society of Literature, founded 1823, chartered 1826; the Medical Society of Edinburgh, formed in 1734, was not incorporated until 1778; the Royal Society of Edinburgh, established in 1739, was chartered in 1783. The Cambridge Philosophical Society, instituted in 1819, and incorporated in 1832, is said to be the only chartered provincial society.

The greater part of these societies possess libraries, some of them of large extent. Those which issue transactions, by exchanging with similar associations, become possessed of valuable material. In this way the Royal Society has become possessed of its remarkable collection of scientific periodicals. The Manchester Literary and Philosophical Society, from its long existence and high repute, has acquired in the same manner a large and valuable library. In the provinces many of the societies devote their energies to the formation of a museum, which, under favourable circumstances, becomes a valuable repertory of information as to the local antiquities, geology, &c.

The mode of election is similar in most of the societies. Taking the Statistical Society as an example, we find that a candidate must be proposed and seconded by two fellows, who recommend him for election by signing a paper, which is hung up in the rooms of the society for two months, after which he is balloted for, and becomes a member if he receives a majority of three-fourths of the votes. In some of the societies the candidate must be recommended by a larger number of the existing members. The plan of limiting the number of members at the Royal Society is said to work well, and yet it goes upon a false principle, for the supply of suitable candidates cannot be so constant a quantity as never to exceed or fall below the magic fifteen. This is the vice of all societies which profess to limit their numbers arbitrarily. Let the intellectual standard for admission be raised as high as possible, but all who come up to it have a moral claim to admission, all statutes to the contrary notwithstanding. There is another vicious limitation which foolish custom has imposed upon British learned societies, they are confined to men. There are surely men in the Royal Society who have less claims to their places than Mrs. Somerville. The only exception to this ungallant conduct is that of the Statistical Society, which has one lady member. Whenever the history of that Society comes to be written it will be remembered, to its honour, that one of its fellows was Florence Nightingale.

The payments made by members usually consist of an admission fee varying from one to ten pounds, and annual subscriptions varying from one to four guineas. These subscriptions can usually be compounded for at the rate of from ten to fifteen years' purchase. The payments are much higher in England than in Scotland or Ireland, and must sometimes prevent persons whose learning and talent would reflect lustre upon the societies from joining them.

It may be well to give here an explanation of the most commonly used alphabetical designations of the members of these associations:

F.R.S. Fellow of the Royal Society.
F.S.A. Fellow of the Society of Antiquaries. (Occasionally this is erroneously given to Members of the Society of Arts.)
F.L.S. Fellow of the Linnæan Society.
F.H.S. Fellow of the Horticultural Society.
F.G.S. Fellow of the Geological Society.
M.R.S.L. or F.R.S.L. Member or Fellow of the Royal Society of Literature.
M. Inst. C.E., Assoc. Inst. C.E., Grad. Inst. C.E. Member, Associate, and Graduate of the Institution of Civil Engineers.
F.R.A.S. Fellow of the Royal Astronomical Society.
F.R.I.B.A., A.R.I.B.A. Fellow and Associate of the Royal Institute of British Architects.
M.R.A.S. Member of the Royal Asiatic Society.
F.Z.S. Fellow of the Zoological Society.
F.R.G.S. Fellow of the Royal Geographical Society.
F.S.S. Fellow of the Statistical Society.
M.N.S. Member of the Numismatic Society.
F.C.S. Fellow of the Chemical Society.
F.E.S. Fellow of the Ethnological Society.
F.A.S.L. Fellow of the Anthropological Society.
M.A.I. Member of the Anthropological Institute, established by the amalgamation of the two last named.
F.R.S.E. Fellow of the Royal Society of Edinburgh.
F.R.S.S.A. Fellow of the Royal Scottish Society of Arts.
R.A. Royal Academician.
M.W.S. Member of the Wernerian Society.
F.C.P. Fellow of the College of Preceptors.
F.S.A. Scot. Fellow of the Society of Antiquaries of Scotland.
M.R.I.A. Member of the Royal Irish Academy.
M.G.S.D. Member of the Geological Society of Dublin.
Mem. Inst. C.E.I. Member of the Institute of Civil Engineers of Ireland.
M.R.C.S., F.R.C.S. Member and Fellow of the Royal College of Surgeons.
M.R.C.P., F.R.C.P., L.R.C.P. Member, Fellow, and Licentiate of the Royal College of Physicians.
F.R.H.S. Fellow of the Royal Historical Society.

Mr. Hume, in 1853, estimated the number of members of learned societies in the United Kingdom as "considerably more than twenty thousand; and deducting one-fourth—a very large proportion—for persons who are connected with two or more such societies, we have still more than fifteen thousand individuals! Let it be observed, that these are not to be reckoned like the members of the army or navy: they are the choice spirits of the age, the intellectual men in their various localities, the ablest in their respective departments. It is a pity that, with the power which unity would impart, there is not more of a common principle of action amongst them; a feeling of brotherhood, and a

common purpose to accomplish things at once great and good." Since Dr. Hume made this estimate the army of science and learning has been increased by many recruits; to continue the metaphor, we may say it is now on a war footing. I have no data from which to conjecture the number of persons who are now connected with one or more of the learned societies, but the number must be largely in excess of that mentioned for 1853, since various new societies have come into existence, and others have developed very greatly since that date. After all possible deductions have been made the learned societies represent a large amount of scientific enthusiasm and love of learning. So large a mass of humanity, if skilfully organised and wisely directed, would be capable of producing great results. Is their present mode of working satisfactory? Does the world derive all the benefit from them which they are capable of bestowing? Is the present multiplicity of, to some extent, inevitably conflicting institutions, conducive to that improvement of natural knowledge which is the avowed object of them all? It would be unjust to deny that they have done and are doing good service. Year by year they garner the result of patient investigation, of long and careful research. Recording new facts, illustrating old truths, dissecting error, they pursue a course of steady usefulness; they build up solid ground of science, not only with the unwearied patience of the coral insect, but often with the celerity of magic power. A century since and geology was a word almost without meaning. In whatever field of human learning we investigate we shall have reason to be grateful for the valuable monographs which are contained in the transactions of learned societies. The ponderous Catalogue of Scientific Papers, now in course of publication by the Royal Society, is a sufficient testimony to their worth. The members of the learned societies include the most distinguished and most ardent investigators in each science.

"The time has passed," says Mr. Weld, "when the Royal Society stood alone as the representative of all the sciences. The increase of population and education naturally resulted in an increase o scientific men, and, as we have seen, new associations were formed for the cultivation of various branches of science, which could hardly have been done effectually by the limited funds of the parent society. These new societies, it cannot be denied, have done much to enrich our store of knowledge, and enlarge the realms of science; but there is a weakening tendency in their very numbers, a frittering away, if we may be allowed the expression, of valuable time and abilities. Societies growing out of societies, each encumbered with the expensive machinery of apartments and officers, each setting up on a smaller scale what is often unnecessary, as far as the wants and interests of science are concerned. Indeed, the multiplication of scientific societies in London must have a certain injurious effect; already the seeker for information is bewildered by their number, and the discoverer of a new fact is at a loss where to offer his contribution. Half a century hence, the philosopher in

search of the history of a discovery will be sorely perplexed, amongst the numberless transactions and proceedings of scientific societies, to get at facts. It would be a great assistance to the right understanding of the history of science, if the Philosophical Transactions contained, as in former times, the first account of philosophical discoveries."

In the last century the Society of Antiquaries and the Royal Society had the field to themselves, and it is to be regretted that the Royal Society did not act the part of Aaron's rod, and swallow up the new ones at their birth. In the early volumes of the Philosophical Transactions we find occasional archæological papers, and certainly a society whose object is the improvement of natural knowledge should seek to labour in every field, and be glad to widen its boundary for the admission of new arts and sciences. A judicious division into sections, each having a certain amount of self-government and independent existence would have prevented that multiplicity of societies which is an admitted evil. In the world of learning no less than in the work-a-day world, disunion means weakness. Division of labour is a good principle, but in the mechanical advantages which it procures we must not lose sight of the unity of knowledge. The lines of demarcation between the various sciences are essentially artificial, and our most skilful classification so far fails to mark out any of them so distinctly as to isolate it from the rest. Without adopting Comte's hierarchal scheme, it is evident that the sciences are all mutually connected and interdependent. There may be no doubt as to the capital of the kingdom, but every border is a debateable land. Nature has some doors with many locks, each needing a separate key. The chemist and the astronomer have to unite their forces before the wonders of spectrum analysis meet our gaze. The geologist, the botanist, the zoologist, have to work hand in hand to reap the harvest in the field of palæontology. The learned societies seem to have forgotten or never known that unity gives strength. They have worked in isolation, if not in absolute antagonism. Hence a dispersion of valuable matter in various places, which, gathered into one quarter, might be suggestive of new and important combinations. Let us take the case of a paper dealing with the philological structure of one of our English dialects. As far as subject is concerned, this might be read before the Royal Society, the Society of Antiquaries, the Philological Society, the Archæological Institute, the Archæological Association, the Royal Society of Literature, the Royal Historical Society, the Anthropological Institute, and a score or more of the provincial societies. There is a valuable monograph on the Lancashire dialect in the Transactions of the Philological Society, and another in the Proceedings of the Literary and Philosophical Society of Liverpool, but for information on the eastern variety of that dialect we must go to the Historical Society of Lancashire and Cheshire. The Cheshire Glossary will be found in the Archæological, but the Cambrian one must be sought in

the Transactions of the Royal Society of Literature. This confusion extends to all subjects, and illustrations of it might be multiplied indefinitely. The financial aspect of the question is also worthy of consideration. The ability to pay heavy fees or large subscriptions, is surely no test of literary ability or scientific spirit. Let it be remembered that Newton was at one time unable to pay the very modest fees then required by the Royal Society. Heavy payments must in any society inevitably exclude some whose labours would add to its usefulness and fame. It should then be an object with each society to make admission dependent as little as possible upon pecuniary considerations. The system of "departmental" societies is opposed to this, for each association must have its individual organisation, with all the costly machinery of separate apartments, library, transactions, &c., &c. This aspect of the question is that in which the benefit of co-operation is most immediately apparent. The absurdity of half-a-dozen societies having a common object, and going to the trouble and expense of separate machinery for each, working either in isolation, or needless competition, is sufficiently apparent. But the greatest evil is isolation. "Except in individual cases, whole classes of inquirers upon certain subjects know nothing of inquirers upon kindred subjects but what they learn from their writings; and objects of common interest, when promoted at all, are left to individual effort, or to chance and accident." It has been well said that all the greatest advances in science have arisen from combining branches of science hitherto distinct, and in showing the unity of principle pervading them. This process the learned societies have every facility for aiding, but have failed to do so from lack of union. What is the remedy? The present writer has suggested one which appears to him sufficient.* Let the present chaotic want of system be superseded by a National Institute for the Advancement of Knowledge. Such an institute might readily be obtained by the amalgamation of the present societies. The only thing that need be sacrificed would be the particular name of each society. The combination would give a body of men fairly representative of the science and education of the country. In the prosecution of its researches this institute would have no limitations. Whatever of interest and of value British *savans* might bring before it would be welcome and appropriate, and would be accessible to the student of that knowledge which is one. In its organisation the first labour would be the classification into sections. Whilst there would not be three or four sections to perform the same work, the entire ground could be fairly occupied, which is not the case at present, and the division lines could be marked with much greater accuracy than is now possible. And as each section would require almost the same executive that each society now has, the proposed arrangement would give each member more opportunities for honourable distinction than he now enjoys.

* This suggestion was first published in 'Nature' (iii, 162), from whence an occasional sentence has been transferred.

Another classification would also be requisite—a classification by localities. The members residing in each district would form a local section, might hold meetings at regular intervals, and be a standing committee charged to watch the interests of science and literature in their particular neighbourhood. We should thus obtain throughout the length and breadth of the land a network of intelligent observers and investigators. With such an organisation, many facts in natural history, in archæology, in philology, which now escape unnoticed, would be duly recorded and discussed. Such an association would surely accelerate the progress of knowledge, and be a mighty motive-power for good. What might we not expect from a large and well-disciplined body of men, bound together in a union which had for its object the attainment of "the knowledge of the causes and secret motions of things, and the enlarging of the bounds of human empire to the effecting of all things possible?"

These societies respond to a feeling implanted deep in the human breast.

> "Look, the world tempts our eye,
> And we would know it all.
> We map the starry sky,
> We mine this earthen ball,
> We measure the sea-tides, we number the sea-sands:
> We scrutinize the dates
> Of long past human things,
> The bounds of effaced states,
> The lives of deceased kings:
> We search out dead men's words, and the works of dead men's hands."

Union is essential for the gratification of man's restless curiosity. Co-operation is necessary for the successful prosecution of that knowledge which adds dignity to life, and has for its aim the emolument of humanity. (Since these pages were written, the evils arising from the multiplicity of societies has been referred to by Colonel Lane Fox, in his introductory address at the British Association, as President of the sub-section Anthropology. His remarks are reported in 'Nature,' vi, 341.)

WILLIAM E. A. AXON.

NOTE—For further information the reader may consult—

'The Learned Societies and Printing Clubs of the United Kingdom,' by the Rev. A. Hume, Lond., 1853.

'List of Foreign Correspondents of the Smithsonian Institution,' Washington, 1870.

'Annuaire des Sociétés Savantes de la France et de l'Etranger,' par le Cte. Achmet d'Hericourt, Paris, 1863, 2 t.

'History of the Royal Society,' by Charles Richard Weld, Lond., 1848, 2 vols.

'St. Paul's Magazine,' vol. ii, 1868 (Italian Academies, p. 79).

'Paris Guide par les Principaux Ecrivians et Artistes de la France,' Paris, La Croix, 1867, 2 t.

The article on the Institut in this excellent work is by Rénan: that on the Académie Française is by Sainte-Beuve, and it has been reprinted at the Nouveaux Lundis, 1870. t. xii.

'Biographical Chapters in the History of the French Academy,' by Edward Edwards, Lond., 1864.

COINAGE AT HOME AND ABROAD.

THERE are not many subjects—if we except religion—upon which people have such obstinate differences of view, and remain so entirely uninfluenced by each other's arguments as the theory of money and currency. Those who have opinions at all on the abstract questions to which the management of 'circulating media' give rise, are, indeed, but few in number; and the actual control of the currency, like most other matters in England, is conducted, by those whose business it is, with very little reference to theory, and with a proportionate amount of success.

The superintendence of the issue of money in England, as in all other countries which have attained a stage of civilization in which a demand for a systematic circulating medium arises, rests with the sovereign power; it is not, however, and has not been in modern times, a prerogative of the Crown, for it is controlled in all directions by Acts of Parliament; though, so far as the issue of metal money is concerned, it is a business carried on with a special reflection of the prestige of the throne. The Royal Mint, however, issues no paper-money; the right to do this is delegated by the sovereign power, first to the Bank of England (a trading corporation of such dignity and importance that it is frequently taken to be a department of Government), and, secondly, to some 1,200 banks and branch banks in various parts of the kingdom. But of these only the Bank of England issues notes which are a legal tender; a debt, that is to say, can only be satisfied (except by the consent of the creditor) either by coin of the realm or notes of the Bank of England.

The first historical trace of the administrative conduct of coining in England dates from about the time of Canute. The Anglo-Saxon coins bear the name of the sovereign, but are also impressed with the names of the Mint officers. In the course of history the right to coin—over which, as in the case of other matters, the second and third estates of the realm, in their unformed condition, asserted no constitutional control—was delegated by the Crown to various nobles, spiritual and temporal, and to several of the more important monasteries. Cardinal Wolsey had a mint when Bishop of Durham and as Archbishop of York; the right of the Archbishops of Canterbury to coin money only disappeared, with other prelatical privileges, at the Reformation. The London Mint, moreover, had branches for the accommodation of the provinces; of these there were 38 in the time of Ethelred; but the gradual increase in the means of intercommunication over the face of the country diminished, as it progressed, the necessity for these branch establishments; the obvious advantage of centralization in such a delicate and important matter as the coinage serving, by the time of William of Orange, to extinguish the provincial mints, the last of which was

abandoned during the reign of this monarch, and the issue of metal money confined henceforward to London. As regards manufacture, the Mint itself does not do all that is requisite; in a considerable degree our money is made at Birmingham under contract with the Master of the Mint; and one Birmingham firm, Messrs. Ralph Heaton and Co., have been considered to possess better machinery than the Mint on Tower Hill.

The material of the English coinage, as is well known, is of three kinds; gold (so-called), silver (so called), and copper (so called). In the gold coinage, however, $\frac{1}{12}$th is authorized alloy; in the silver, 18 dwts. of alloy is thrown in to the pound Troy; and the copper or bronze money now in use in England has no pretensions to an intrinsic, equal to its nominal, value. Gold alloyed with silver is technically termed electrum; silver is, on the continent, very largely alloyed with copper, the result being 'billon'—a dirty and inelegant material, as instanced in the *groschen* of North Germany; and bronze—that is to say, copper and tin—ordinarily and unobjectionably does duty for pure copper. Metal money, however, is older than coin; unstamped metal, in bars, spikes, and rings, having existed in very early ages as a means of exchange. A State guarantee of the weight and fineness of pieces of metal was naturally soon found a convenience, and a State stamp upon a lump of metal, indicating its weight and fineness, was the first form of coining.

The earlier coins of England are Roman, made by our first conquerors: the Emperor Constantine, it is believed, had a branch mint in London. The first native coinage consisted of silver and copper pieces, skeattæ and stycæ. These rude specimens appear to have been issued for the kings of Northumbria, a bird, a profile, and some symbols, now understood, appear upon them, but no inscription. Silver pennies came in with the Heptarchy, and with occasional issues of halfpennies, served England for sole currency down to the time of Edward III. On the Heptarchy pennies we find a name—the king's or the moneyer's; after the establishment of Christianity, the sacred symbol of the cross appears on the penny; and in time there began to be attempted profiles of the reigning monarch. King Alfred's pennies are occupied, on the reverse, by a rude monogram of the letters which spell London; an attempt, on the obverse, at a portrait of the great Saxon king, is grotesquely unsuccessful, and was subsequently abandoned, a cross and circle taking its place. A cross, with pellets in the angles, became the usual reverse, or back device, of the Norman and Plantagenet coins.

The first step in improving our coinage was taken by Edward III. By this time art, in some branches, had reached in England a singular beauty; and it was not to be wondered at that the builder of so truly regal a monument as Windsor Castle should introduce a more artistic form of metal money. To pennies, halfpennies, and farthings, were now added groats (*i.e.*, greats), and half groats, worth four and two pence respectively; and what was a more striking step, a coin was issued, in the form of

a 'noble,' worth six shillings and eightpence. Edward's pet ambition, his pretension to the throne of France, shows itself in the design of this handsome piece, in which the monarch is represented in a ship, a sword in his right hand, and in his left a shield quartered with the arms of France and England. The legend is a text of Scripture in Latin, 'Jesus autem transiens per medium illorum ibat.' Another text, 'Posui Deum adjutorem meum,' appeared on the groats; and the words 'Dei gratia' were assumed for the first time, in connection with the claim expressed by the words 'Rex Franciæ.'

This introduction of Latin for the legend of English coins—a pardonable affectation at the time when it was a current tongue for the learned classes—has survived ever since; though, as a matter of taste, it is very much open to question. A coin should, of all things, be national and historical, and the retention of Latin inscriptions on our existing pieces is an absurd anachronism. When, moreover, we have a Latin legend on the obverse of a coin, and on its reverse the intimation, in the vulgar tongue, 'One shilling,' or 'One Florin—one-tenth of a pound,' the incongruity of the designs of the English Mint becomes palpable.

Edward III's noble went up in value till it became worth ten shillings; and to represent its first value, eight shillings and sixpence, Henry VI, or some person acting for this weak occupant of the throne, coined an 'angel.' This piece was so-named from its principal design (or obverse), which represented St. Michael transfixing a dragon: on the reverse is a ship, with a cross for mast. The nobles of Edward III were now named 'rials' (compare the later term 'reals'); double reals were coined by the first Tudor king, and here—the coin being worth twice ten shillings—we have the first appearance of what is now so well known throughout the world, the English sovereign. The face of the double rial has King Henry VII on a throne, with sceptre and orb; and on the back, in the centre of a heraldic rose, the arms of France and England. Naturally, the double rial (or royal) acquired the designation of sovereign, though it was, by no means, in anything but value, the equivalent of the sovereign of the present day. It was in this reign, however, that our present coin-system first took definite shape. Not only the sovereign, as a double real, but the shilling, under the name of 'testoon,' appeared.

The historical basis of the English coinage, it will thus be seen, is the silver penny, which developed upwards to the sovereign by successive steps; a piece of fourpence value being the first step, then a piece of twenty groats, the noble; and lastly, the noble, under the new name of a rial, was doubled, and the rial having increased in value to ten shillings, a double rial represented what we now call a sovereign. St. George and the Dragon first appeared on a noble issued by Henry VIII, forming the obverse of the coin, not as in the last coined sovereigns, its reverse. A ship formed the reverse of Henry VIII's nobles. Under Edward VI appeared crowns and half-crowns, having

for principal device the king (crowned) on horse-back. With Philip and Mary appeared Spanish insignia, impaled with those of England; the Irish harp was introduced under James I, with the nuptial motto, 'Que Deus conjunxit nemo separet.'

Up to this point the English coinage—omitting from account the discarded Northumbrian styca—did not comprise copper; but the want of a material more ponderable than silver at low values had begun to make itself felt, and 'tokens,' or private coins, of copper, had got into extensive, unauthorised, circulation. An issue of copper money ensued, in the form of farthings; the lowest denomination being that in which, of course, the inconvenient smallness of silver would first be felt: these have on the obverse a crown, a sword, and a sceptre; and on the reverse the Irish harp. Noble looking ten and twenty shilling pieces were coined in silver by Charles I; and presently, with the influx of gold from Africa, the most precious of the three money metals established itself in our coinage, under the familiar name, geographically derived, of 'guinea.' Sensibly enough, the guinea was intended to represent twenty shillings; but it rose, as the noble had done, before it settled itself eventually at the comparative value as reckoned with shillings of 21 to 1. The first guinea borrowed a device from the fauna of the continent, whence its material came, having an elephant on one of its sides. This fine English gold piece enjoyed an official life extending to 1817. It exists now, but rather as a curiosity than a piece of currency; a curious sentiment has, however, attached itself to the name, so that it is still customary for professional fees, subscriptions to charities, and prices of works of art, to be in guineas instead of pounds; to give a physician a pound and a shilling, rather than a sovereign, or rather (even) than a sovereign and two shillings, preserving the transaction, in some degree, from the ordinary mercantile flavour.

The coins of the Commonwealth had, at first, no profile; these, in accordance with sound taste, discarded Latin for the simple inscription, in native, 'The Commonwealth of England,' the motto being also in the vulgar, 'God with us.' Cromwell, however, showed in this matter a tendency to play the monarch, and issued a few coins with his own bust and title as Protector, and on the reverse his own arms, combined with national emblems. These were exceedingly good looking pieces. In the early coins of Charles II, the monarch appears in the dress of the period; but the tendency to conventionality, which so often spoils coinage, prevailed in the later years of his reign, and the frivolous Stuart is clothed in drapery of the times of the Cæsars. On these last coins the head of the king looks to the left hand; and a curious practice has since been observed of changing the direction in which the profile looks with each successive monarch. Latin reappeared as the language of the motto, that now chosen being 'Decus et tutamen.' Halfpennies were presently added to the copper coinage, and the conventional figure of Britannia—a personification of our country due originally to the Romans—

who not only conquered Britain but loved it—made its appearance.

True to the law by which coinage reflects dynastic changes, the metal money of the Hanoverians broke out in devices associated with Hanover and Nassau; with George III the Roman conventionalism gave way—in coinage as in other things—to a Grecian revival; St. George, and even his dragon, were Grecianized. Copper pennies now at length appeared, and put an end gradually to the system of private 'tokens,' under which stamped bits of lead, tin, and even leather, representing the lower values, had long had currency on sufferance, being issued by city corporations, vintners, grocers, and tavern-keepers, to supply a want which the mint was slow to recognize. The twenty shilling gold coin known as a sovereign was substituted for the guinea in 1817, and has acquired such a prestige that it has perhaps the best chance of any existing piece of money of becoming the basis of an universal currency, if ever that great desideratum should be realized. Fourpenny pieces were issued under William IV, threepenny pieces and 'florins' value two shillings—have followed in the reign of Victoria I. The florin has already passed through more than one edition; it was at first issued with the usual pious words 'Dei gratia' omitted from its legend, whence arose an outcry which led to the restoration of the initial letters of this Latin phrase in a subsequent issue. The special object of the florin was decimalisation; but the coin has taken no great root in the minds of the common people, who look upon it and call it a 'two shilling piece;' its introduction into accounts, as the decimal of a pound, has not yet made any progress. Its name of florin seems to have been prompted by a desire to establish its exchangeability with the coin of the same designation and value which is the unit of account in Austria and the South of Germany. There is, however, little or no indication of substantial progress in Europe in the direction either of decimal money reckoning, or international coinage. A bewildering variousness of moneys subsists among the various countries of the globe, and the efforts which are being made by theorists and methodical minded reformers to attain an universal currency meet as yet with little encouragement.

We have now traced the growth of the English system of coins; it results that we have in present circulation for English use twelve metallic pieces. These are the sovereign, the half-sovereign, the crown, the half-crown, the florin, the shilling, the sixpence, the fourpenny piece, the threepenny piece, the penny, the halfpenny, and the farthing. Of these, it is scarcely necessary to note, the two first mentioned are of gold, the three last named of 'copper' (so-called), the rest of silver. The sovereign, shilling, and penny are the moneys of account or reckoning, the rest are coins of convenience. Gold pieces of other values have been published at times; five pound, three pound, and two pound pieces, half-guineas, and a gold bit of seven shillings—one-third of a guinea. The fractions of a guinea perished with it, or before

it; five pound pieces and two pound pieces are still theoretically current, but none have been struck at the Mint during the present reign.

The commercial basis of the English currency is the *sovereign*. The stability of this coin is ensured by a legislative enactment which makes all gold ingots saleable to the Bank of England at the price of an equal weight of sovereigns. The sovereign therefore is always worth its weight in gold; but no legislature or power can really regulate value, and as gold itself becomes less rare, its value, coined or uncoined, necessarily falls; it is, in other words, not exchangeable for the same quantities as before of other articles which men need or desire, food, clothing, or articles of delight to the eye and the ear.

The *half-sovereign* is a coin of convenience, representing, however, its true value as metal.

The *crown*, or silver piece of five shillings, is being dropped from the present coinage; its origin has already been described. It is a coin of convenience, not of account, and its convenience is not, in the present day, much appreciated.

The *half-crown*, in spite of murmurs in letters to the 'Times from various persons who fear that the 'two-shilling piece' may take its place in certain customary gratuities, is also being dropped to make more elbow-room for the decimal florin. The half-crown also is a coin of convenience only.

Of the *florin*, and the motives which have called it into existence, we have already spoken. Hopes were entertained that, as the decimal of a pound, it would become a coin of account instead of the shilling, but towards this there is as yet no movement.

The *shilling* is the silver coin of account, carrying a nominal value of one-twentieth part of a sovereign; but this value is conventional only, and not realizable, beyond a limited extent. Forty shillings tendered in satisfaction of a debt of two pounds must be taken, but a creditor may decline forty-one shillings in payment of a debt of two pounds and one shilling. Nor is the Bank of England (as representing the Mint) compelled to take silver and return it in the shape of an equal weight of shillings. Roughly speaking —to make the matter plain—the silver of five pounds' worth of shillings, if melted down and sold to the Mint, would fetch for the seller about four sovereigns. The shilling, in short, is what is technically termed a token coin.

The *sixpence* is a coin of convenience, representing, in all respects, the half of a shilling, and partaking, like all the other silver pieces, of its disabilities.

The *fourpenny piece* is being discontinued, the *threepenny piece* is still issued.

The time-honoured *penny*, the original of English coinage, though no longer its basis, is now a copper token coin, worth, in gold, very much less than its nominal value; at the last issue of it and the *halfpenny*, a great reduction in weight was made, to the sensible convenience of everybody, and with impunity so far as regards its exchangeability. Nor has a copious introduction of

French copper coins, to do duty as English pennies, produced any appreciable result, or provoked any but theoretical resentment.

Glancing now at the present condition of money coining in England, it may be interesting to note that the Mint, according to the last report of the Deputy-Master, was making for English use two gold coins, the sovereign and its half; four silver coins, namely, florins, shillings, sixpences, and threepences; and two bronze pieces, pence and halfpence. There was also struck in 1871, the year reviewed in the report just mentioned, the toy money for the Queen called 'Maundy money,' consisting of silver fourpences (no fourpences being struck for ordinary use), silver twopences, and silver pence. (The value of the Maundy money made in the year 1871 was 155*l.* 8*s.* 4*d.*) Pieces of other denominations were made for the colonies, namely, silver coins of 50 cents, 25 cents, 10 cents, and 5 cents, for Canada; silver coins of 20 cents, 10 cents, and 5 cents, for the Straits Settlements, nickel pence and halfpence for Jamaica, and bronze pence and halfpence for Jersey. In the coins for the Straits Settlements it is satisfactory to see that the affectation of a Latin inscription has been abandoned, and the effigy of Her Majesty is surrounded with the plain English words, 'Victoria Queen.' No farthings were coined, the stock in circulation being sufficient. The colony of Prince Edward Island being in want of money, a million of bronze cents were struck for it, under the superintendence of the Mint, by Heaton and Sons, of Birmingham.

Gold was coined, by the English Mint in 1871, to the extent of 9,798,735*l.*, which is a great excess upon the annual average, the latter being about 5,000,000*l.* A sudden demand for gold coin arose in the autumn, after the conclusion of peace between France and Germany; and the Mint could hardly keep pace with it. Apart from its magnitude, the gold coinage was not marked, during that year, by any special feature. The Bank of England continues to be, practically, the only provider of gold bullion for the Mint; though Colonel Tomline, M.P., whose peculiar views of the coinage have resulted of late in some amusing correspondence with the Chancellor of the Exchequer, availed himself, on one occasion, of the section of the Coinage Act, which enables 'any person' to bring gold to the Mint for coinage. The honourable and gallant Colonel sent an ingot for conversion into a hundred sovereigns.

Gold coin is specially sensible to continental influences, as well as to home commercial conditions; but the demand for silver, it being but a token currency, is an index only to the state of English trade. The commercial activity of the year 1871 was great, and the demand for silver coin, which in 1867, just after the last great 'city crisis,' was nil (17,000*l.* more being paid into the Bank of England than was paid out), and which, in the four following years rose to 328,000*l.*, reached in 1871 the sum of 650,000*l.* There was a sustained demand for bronze; and the Mint had to get some of the preliminary processes for making

pence and halfpence performed at Birmingham, so much was its own machinery occupied: meanwhile urgent applications were satisfied by arrangements with firms of London brewers, in whose hands large quantities of pence and halfpence are constantly accumulating—the prices of pints of beer sold by their publicans.

A change in the design of the sovereign, as is well known, was brought into effect by the Mint in 1871; coins bearing the reverse of St. George and the Dragon having been issued concurrently with others of the old type.

The Royal Mint in England, as now constituted, is a department of the Treasury. The Chancellor of the Exchequer is Master of the Mint, *ex officio*, but has no salary in that capacity; the working head of the establishment is the Deputy Master. This arrangement, however, dates only from 1870. In earlier, though comparatively modern, times, the management of the Mint had got into a very complicated state. The Master was a political officer, changing with the Cabinet, and, as a natural result, had been compelled to allow the growth of authorities under him who were practically not amenable to his control. The Comptroller performed his duties by the good old tory system of deputy, and the Deputy rendered accounts separately from the Master; thirdly the Melter, and fourthly the 'Queen's Assay Master,' had certain perfectly uncontrolled functions; and, lastly, jurisdiction over certain points was reserved to a board, consisting of five principal officers, the Master or Deputy Master, the Comptroller, the Queen's Assay Master, the Queen's Clerk, and the Superintendent of Machinery. Nor was this all; there was a privileged body of 'Moneyers,' who contracted with the Master for the actual coining, and claimed a prescriptive monopoly of the work. Fees and perquisites of uncertain, and in some cases extravagant, amount supplemented avowed salaries, and some of the officials had the right to carry on, in the Mint premises, the business of a private refiner. When the first instalment of the Chinese indemnity arrived in England, in the shape of immense quantities of silver, it was proposed to melt it, and extract what was known to be the more than average trace of gold in it. The Melter and Refiner at the Mint was told that he would have to perform this operation: he replied that it was not 'in his contract.' So a special agreement had to be drawn up between this official and the Treasury before the required service could be extracted. These abuses were remedied in a great measure in 1850, when all independent authorities in the Mint were subordinated to the Master, and the operations of the establishment entrusted throughout to salaried officials, responsible to its head. Ten thousand a year was saved by the new arrangements. By reorganization in 1870, finally, 2,500*l.* a year more was saved, the officials were required to pass examination by the Civil Service Commissioners, and the element of writers—a sort of mechanic penman much affected by the existing reformers of government offices—was introduced, in place of a certain proportion of the clerks.

It has already been stated that, as regards gold coining, any person may bring gold to the Mint, and the establishment must coin it without charge. That the right is not exercised arises from the fact that the Bank of England is bound by Act of Parliament to purchase gold at 3*l.* 17*s.* 9*d.* per ounce standard, and, as the Mint only gives 1½*d.* an ounce more, the time it takes to coin the metal and deliver it back would, in most cases, be better employed by the owner of the gold in using his money at interest The Bank gives notes for gold brought to it.

As a means of keeping the gold coinage in good condition, there is a statutory obligation laid upon every English subject to 'cut, break, or otherwise deface,' any defective coin tendered to him in payment. Few private individuals, however, pay much attention to this their legal duty; only the banks and a few public institutions systematically attempt it. Light sovereigns are bought at the Bank of England at the price of uncoined standard gold.

The English gold coinage is not much counterfeited. The density of gold makes it difficult to manufacture spurious coins which shall not be at once detected by weight; the most successful imitation of sovereigns are made of platinum, electroplated with standard gold. A more usual fraud is the reduction of sovereigns by the galvanic battery. Jewellers also work up sovereigns for trade purposes, owing to the convenience of being able to obtain, by this means, metal of a known standard.

In the matter of silver coinage, the Mint, as has been shown, makes considerable profit; and it would of course neutralise this profit, as well as bring to the establishment an inordinate amount of silver metal, if silver were to be coined, as gold is, on the application of any person bringing it. Colonel Tomline, it will be remembered, has made this a grievance, but it is obvious that, so long as shillings are 'a token coinage' passing, that is to say, for more than the intrinsic value of the metal, the Mint must not expected to coin it for all comers without charge. Silver bullion for coining is brought from time to time by the Treasury, through the Master of the Mint; and the silver section of the coinage is kept in good condition—or, shall we say, in passable condition—at the expense of the State. The actual operation is performed at the Bank of England, where a clerk 'garbles' all silver coins received, and the worn pieces are sent periodically to the Mint. The Mint receives them at their nominal value, and the loss is defrayed by a vote in the Mint Estimates, usually 15,000*l.*

Counterfeiting silver coins is much easier, and, consequently, more prevalent, than counterfeiting gold. Lead and iron are chiefly used by the illicit coiner of shillings and florins.

The mode in which silver currency is distributed throughout the Kingdom has been briefly explained by the Chief Cashier at the Bank of England, as follows:—Every banker in the Kingdom has an agent in London; and every London banker has an

account with the Bank of England, in which establishment there is a department devoted to the issue and receipt of silver coin. If there is a deficiency of silver in a district, the local bankers are the first to find it out. They write to their London agents, who draw on their account with the Bank of England, and obtain what silver is required, which they send to the country banker. On the other hand, if there is a surplus of silver in a district, it accumulates in the coffers of the local bankers, who send it up to their London agents, and they send it into the Bank of England. If there is a general demand for silver currency, the stock which the Bank of England endeavours to keep on hand becomes unduly diminished, and immediate notice of the fact is conveyed to the Mint authorities, who proceed to coin a supply. Thus, remarks the Chief Cashier, 'the Bank of England has its finger on the pulse of the whole kingdom, and through the Bank the Mint is always kept informed, and s always ready to supply whatever coin may be required.'

It has been already noted that no progress has recently been made towards the desideratum of an international coinage; unfortunately, the most important step in minting recently taken in Europe has been in a retrograde direction. When Germany determined last year to mark its newly consolidated unity by the issue of a common coinage for the Empire, it was hoped that a piece practically identical with the English sovereign might be adopted. The sovereign contains 7·32 grammes of pure gold; and as the United States half-eagle contains 7·52 grammes, and the 25 franc piece proposed for France, and the States associated with her in the Monetary Convention of 1865, is to contain 7·26 grammes, the adoption by the new European Empire of a coin within these limits would have been a considerable step in advance. Nevertheless, the actual coin adopted was a 20 mark piece containing but 7·16 grammes of pure gold, the issue of which, as the Deputy-Master of the Mint remarks, 'Creates a further divergence from that uniformity which is so much to be desired, and forms an additional obstacle to the adoption of an international gold coin.'

However little the new German coinage may contribute to unity of system, it will, nevertheless, be welcome to travellers as a simplification, so far as it goes. There will henceforth be current, throughout the states of which the Prussian King is Emperor, 20 mark gold pieces, worth (as compared with English sovereigns), about 19*s.* 7*d.*; 10 mark pieces, equivalent nearly to the Englisb half-sovereign; 'marks,' which will but slightly deviate from English shillings, and 'pfennigs,' of which 100 are to go to a mark. This system, it will be seen, is decimal, the unit being the mark (or shilling). Provision was made in the law which established this new coinage for the gradual withdrawal of all the gold coins now current in the several German States; and of the various large silver coins; while the coinage of any pieces other than those newly established was prohibited. These coins of the Empire are to have a common obverse of the Imperial

German eagle with the words 'Deutsches Reich' (German Empire): the reverse varies according to the state which mints the piece.

Japan has made, in the year under review, a remarkable monetary reform. Before the recent development of trade with the European nations who have of late forced their attentions upon her, this country had a singularly clumsy series of coins in currency. One of these, the itzbu, is a bit of silver of the shape of a domino; others were circular and oval discs with a square hole stamped in the centre to admit of their being strung together. Stamped bars of gold, of very large value, were also formerly current, and are still hoarded in Japanese families as property in a concentrated state. The most utter ignorance of the principles and practice of exchange prevailed on the opening up of the ports of this singular people to European trade, and large fortunes were made by merchants and others by the simplest possible operations of exchange at the treaty ports.

Sir Harry Parkes, the great and persevering labourer for the interests of civilization in China and Japan, has at length induced the Japanese to replace their clumsy and, in a great degree, spurious coinage, by one of superior make and undoubted purity; the mint formerly used in the English Colony of Hong Kong has been bought by the Japanese Government, and the machinery established at Osaka, one of the treaty ports, under the management of Major Kinder, late master of the Hong Kong Mint. A public holiday was declared at its opening, a banquet was given to the foreign representatives, and Sir Harry Parkes, replying to the toast of 'All Sovereigns and Rulers of Powers in alliance with Japan,' took up a piece of the new money, and concluded a graceful speech by expressing his hope 'that the policy of His Majesty's Government might ever be as distinguished by the ring of the true metal' (ringing the piece) 'as that which was so sterling a recommendation of the new coin.'

The Japanese, prompted no doubt by Sir Harry Parkes, took more thought for international convenience than the German Empire. In a dispatch marked by that quaintly expressed common sense which distinguishes the Japanese, the British Chargé d'Affaires was informed how that, 'after careful consideration of the (general) convenience of the gold and silver coinage systems of Europe and America, after referring to books (*sic*) and taking the opinion of experienced persons,' the Japanese Government had arrived at the conclusion that a gold standard was 'in accordance with general and self-evident principles.' 'And would not,' asks the state communication naïvely, 'would not the gradual assimilation of the standards and of the weights of the coins of all countries facilitate in a great measure the operations of commerce?' 'We have heard,' so runs the dispatch, 'that some years ago a conference was held at Paris for the purpose of reforming the coinage of all nations; and we believe that this was also earnestly desired by the subjects of the different Powers.' Wherefore this unsophisticated state paper goes on to say, the Japanese Govern-

ment has resolved to adopt a gold standard, and to coin gold pieces, which—it will see upon examination—fall in with the English sovereign, the American half-eagle, and the 25 franc piece proposed by the monetary conference of Paris. This new Japanese coinage is a system of which a piece called the 'yen,' is the unit: the 5 yen piece containing 7·5 grammes of pure gold, or within one-fiftieth of a gramme of the half-eagle or 5 dollar piece of the United States. Substantially, then, the Japanese 'yen' will be the American dollar; their 5 yen piece being virtually of the metallic value of the English sovereign. The new system includes a series of subsidiary coins in silver, called respectively 50 sen, 20 sen, 10 sen, and 5 sen pieces; and a copper series consisting of one sen, one-half sen, and one-tenth of a sen (called a 'rin'). Japan, therefore, is now in possession of a series of coins which is both internationally convenient and decimal, the rin, the sen, and the yen. The rin bears the proportion of 1000, and the sen the proportion of 100 to the unit of the series, namely, the yen, and five yen, as has been seen, are equal to a pound sterling, the unit itself being practically the same thing as the American dollar. To quote the admirably simple instruction to the people issued by the Japanese Authorities on the principles of the new coinage: 'The yen is the title of the basis; and all calculations,' here we have the very ideal of simplicity, 'are made by adding the numbers to the appellation 'yen,' no matter what their amount. The subdivisions of the yen are sen (the hundredth part of a yen), and rin (the tenth part of the sen), which are to be used in calculating small sums. The decimal system is used in reckoning; ten rin make one sen, ten sen make one ten-sen, ten times ten-sen (or 100 sen) make one yen. Above one yen, a ten, hundred, thousand, myriad, all advance one degree by multiplying by ten. In addition, the half-sen, the 5 sen, the 50 sen, and the 5 yen are decimal fractions of each other: 20 sen, 2 yen, and 20 yen, are multiples of 10, and are not foreign to the rule.' Thus do we see principles of currency which struggle almost in vain in Europe, adopted, in all their symmetry and utility, by an Asiatic Power from which we would scarcely deign to take a lesson.

JOHN CROWDY.

THE ART WORKMANSHIP AT THE INTERNATIONAL EXHIBITION OF 1872, AND THE WALTER PRESS.

THE experience of the last two years has convinced the majority of those persons who are interested in these international displays, that the plan of procedure matured by Her Majesty's Commissioners since the great display of 1862, is in the main based on sound principles. It gradually dawned upon men's minds, as population and intercommunication rapidly increased year by year, and as the activity and ingenuity of manufacturers and designers were perpetually stimulated to fresh efforts, that before long Universal Expositions, like those of 1851 and 1862, would attain such gigantic proportions as to become utterly unmanageable. Common sense suggested the only mode of reform which was possible, namely, to divide the objects suitable for exhibition into groups more or less strictly defined, and to hold successive exhibitions of selections from those groups at more frequent intervals. It was determined that the displays should be annual, and the International Exhibition has consequently become one of the regular phenomena of the London season. In arranging their plan for the series of Exhibitions which will terminate in 1880, the Commissioners decided, that of three divisions, the first and second, namely, Fine Arts and Scientific Discoveries and Inventions—should be included permanently; leaving the third, Manufactures, to develop itself year by year. Thus, paintings of all kinds, sculpture, engraving, architectural designs, and drawings; fabrics shown not as manufactures, but for the fine art of their design in form and colour, and artistic reproductions, will each year have a place at South Kensington as natural occupants of Division I.

The new features of this year's Exhibition were cotton and cotton fabrics; jewellery, in which are included articles worn as personal ornaments made of precious metals, precious stones, or their imitations, but not goldsmiths' or silversmiths' work or watches, which will be exhibited in future years; musical instruments of all kinds; acoustic apparatus and experiments; paper, stationery, and printing; including paper, card, mill-board, stationery, account-books, letter-press, plate, and all other modes of printing. These various classes comprise also the raw materials, machinery, and processes used in their production.

It is our intention, as will be observed from the title prefixed to this Article, to pass by without notice the Fine Art Department of the Exhibition, and to confine our examination, with the exception of the Walter Press, to the art-workmanship of the South Kensington galleries. But the reader will at once perceive that the term art-workmanship is incapable of very strict definition, for as the chief aim of the Commissioners is to encourage artistic taste in every department where it can possibly be applied, it will be evident that objects, at first sight of a purely utilitarian character, may be fitly included under this

description. In fact, speaking generally, this designation may be comprehensively applied to all branches of manufacture where artistic skill and taste are called into requisition for the purpose of making objects which will please the eye as well as serve the various uses for which they were intended. Till of late, English designers and manufacturers, though far excelling their continental brethren in the solidity, durability, and general excellence of their productions, fell far behind them in artistic expression. Of recent years we have made gradual but decided improvements in the latter quality,—and much of this success is due to the teaching of South Kensington—but we must take care that the rage for cheapness and rapidity of production does not deprive us of the reputation for solid excellence which formerly distinguished our manufactures. True Art always goes hand-in-hand with Utility, but there is a kind of bastard Art, which regards the form rather than the substance, and which is not unfrequently associated with political and social degradation. For most of the objects of human need, sound, honest, workmanship, even if it be tasteless and ugly, is preferable to elegance of design in connection with flimsy workmanship and defective materials. A generation ago it was only necessary to pass from one side of the Straits of Dover to the other to see both systems in full operation; and most Englishmen, perhaps on account of their ingrained utilitarianism, came back congratulating themselves that, though their buildings were dingy and tame, and their statues mediocre, they had locks which would fasten their doors, and knives which would cut their meat. Matters are altered now; increased intercourse has Anglicised the Continent, and, to some extent, has Continentalised even stubborn England, and perhaps both sides of the Channel are the better for what they have borrowed. With this exordium, let us proceed to the immediate consideration of our subject.

Under the head of art-workmanship may be classed jewellery, metal-work, carving and *répoussé* work, painted and stained glass, porcelain, tapestry, decorative furniture, lace, musical instruments, stationery, and last, but not the less important, printing in all its manifold branches. The jewellery section took a foremost position this year, and daily collected crowds to admire and wonder at the brilliant display of precious stones, many of which, taken separately, represented a small fortune, and, collectively, were of fabulous worth. Our business, however, is not with the gems of the purest water nor the greatest intrinsic value, but with their settings as more or less artistically carried out by designers and executants at home and abroad. A valuable collection was lent by the Princess of Wales, which included a badge presented to her by the people of South Wales, on the occasion of her marriage. The design is of the *cinque-cento* style, surmounted by a bouquet composed of trefoil, oak, wheat, and miseltoe, the bardic emblems of the four seasons, in emeralds and diamonds; while a blue enamel band connects the badge, which bears the motto, in Welsh, "From South Wales to their

Princess." The badge is composed of the leek in pearls, emeralds, and diamonds, on a diamond pavé ground, with a *cinque-cento* border enriched with emeralds and diamonds; beneath are pendants with pictures in enamel of St David, who is the patron saint of the Principality; the Dragon of Wales (the banner of the Principality) recorded since the time of Cadwaladyr, the last native king who was elected to rule over the tribes of Britain, and from whom the Prince of Wales is lineally descended. The conception of this work is artistic and it is admirably executed. The most perfect series of art ornaments in the Exhibition was that contributed by Mrs. A. Morrison, which may almost be pronounced complete. A very beautiful specimen of workmanship from the Palais Royal was a bracelet of black enamel and pink topaz, most elaborately and chastely designed; from the Rue de la Paix came a classical suite in Oriental green jade and dead gold, by Sanspere. The Indian jewellery shown by this lady included a quaintly-devised bracelet in which the bristly hairs of an elephant's tail are mounted in gold, thus showing how simple means will produce good effects when wielded by skilful hands. Another curiosity was a graceful pair of gold wire earrings fashioned by a native workman of Jeypûr. The wages paid to this skilful craftsman only amounted to the sum of twenty-one pence a week, with his food, which consisted of rice *ad libitum*. Some of the most complete specimens of Moorish, Turkish, Wallachian, Egyptian, and Chinese peasant jewellery were the property of Mrs. Morrison. The paper jewellery from the last-named country especially deserves notice. It represents miniature flowers so daintily as to produce the effect of Mosaic work. Still more cunning is the handiwork which can create such fairy-like earrings as those lent by Miss Cole and Miss F. Redgrave, the produce of India and China. At first sight they appear to be composed of blue enamel and the finest Mosaic work, but a microscopic examination reveals that they are made from the feathers of birds. A valuable contributor was Mrs. Rivett Carnac, who not only sent specimens of art-workmanship, but also the tools with which they were manipulated; amongst her collection were bracelets, bangles, earrings, nose-rings, and toe-rings, anklets, chains, and necklaces from Delhi and its vicinity.

From Malta, Genoa, and Armenia came beautiful specimens of filagree in gold and silver. Berne and Unterwalden also furnished tasteful examples of silver-gilt filagree-work; Sweden and Lapland contributed bridal crowns and other family heirlooms more interesting than graceful, whilst in the extensive collection from Bavaria was displayed a ponderous but richly ornamented crown which had been worn at weddings unnumbered from the year 1600 up to the present time. To art connoisseurs a case of Italo-Greek and Etruscan specimens arranged and exhibited by the celebrated Roman jeweller, Allessandro Castellani, (whose father was famous before him), was the greatest attraction of the whole collection, more especially if the

visitor had read the concise but admirably written pamphlet on "Antique Jewellery and its Revival" prepared by the exhibitor. A special feature of this unique collection was the revival of the granular process, an operation of great difficulty the secret of which, says our learned informant, was known to the Phœnicians and Etruscans at a very early period, but died out and was lost to Europe during the Middle Ages. Signor Castellani asserts, however, that in the East this art was never lost. The process alluded to consists in soldering on minute grains of gold, each a perfect globule, but as fine as dust. As a proof of the purely artistic taste of Signor Castellani it may be mentioned that the case in which he exhibited his matchless treasures was arranged with rich brown silk which formed an admirable background. One piece of pattern-work, contributed by this gentleman, was so perfect an imitation of the Etruscan style that it was difficult to believe that it was not really ancient. Apropos of imitation, the owners of priceless pearls paused with dismay before a case exhibited in the French Annexe, by Constant Valées & Co., Paris, where complete sets of these valuable jewels were displayed side by side with manufactured counterfeits of the same design. The resemblance between the real and the sham was so close that it was next to impossible for an ordinary observer to discriminate between the rivals, with this trifling exception, that the skilful imitators have not as yet found out the means of producing the yellowish tint always perceptible in the genuine article.

The estimated value of the jewellery contributed by Messrs. Hancock and Co., was 200,000*l.* This sum included the famous Devonshire gems, which have been shewn at every Exhibition since 1851. The gold and enamel in which they are mounted was executed by this firm; and these specimens are considered to be amongst the finest examples of art-workmanship ever exhibited. Worthy of admiration for their settings as well as their intrinsic worth were a black pearl as large as a hazel nut, the sombre effect of which was relieved by diamonds and emeralds, and a tiara of diamonds designed to represent a wreath of wild roses.

Less costly and brilliant, but equally meritorious, was the collection of Messrs. Howell and James. This firm kept in view the principal object for which these annual exhibitions are instituted, namely, the improvement of public and individual taste and the advancement of scientific knowledge. To this end they spared neither pains nor expense; eminent artists were invited to supply appropriate designs for special occasions, and the result which followed this divergence from the beaten track was highly satisfactory. Among their specimens, may be cited a betrothal locket consisting of a cameo, on which was a Cupid in the centre, and round the margin a serpent, the two symbolising Love and Eternity; a wedding bracelet, which was chased and gemmed so as to represent "fairy marriage bells ringing from a spray of orange blossom;" a tree, the leaves falling from which

typified the sorrows of parting. This was intended for a farewell gift. Very welcome were some graceful lockets for bridesmaids, which it may be hoped will supersede the crystal or gold with jewelled monograms of the warming-pan design, which have been so much worn of late, and which are both inelegant and unwieldy. The fact that the late Sir C. L. Eastlake designed a suite of cameos of the onyx *vert du Brêsil*, and a half suite of cornelian cameos with pearls and enamel, indicates one good result which has already accrued from these annual competitive examinations, namely, a laudable determination on the part of our leading jewellers to combine taste with costliness, and enhance the value of a priceless gem by its surroundings.

By far the best collection of coral ornaments was shown by Messrs. Phillips; it included all the hues of pink, red, rose, and white, tastefully fashioned into bracelets, so skilfully made as to combine the flatness of a band with the capability of encircling the wrist, as well as tiaras and watch chains of delicate and elaborate workmanship. Other specimens of art-jewellery by the same exhibitors redounded much to their credit; for example, a reproduction of the Milo necklace, copied from the Castellani collection in the British Museum. This marvellous *fac-simile*, which occupied fourteen months in its manufacture, is of fringe pattern gold, worked with great delicacy and minuteness. Another notable example was a bracelet of enamelled gold, composed from a frieze by Torregiano, found under Henry VII.'s chapel in Westminster Abbey. Messrs. Streeter's display of machine-made jewellery showed a lack of originality in the designs, although the workmanship was excellent.

Many people, unacquainted with the midland counties have an idea, based upon the opprobrious epithet 'Brummagem,' that all the jewellery manufactured in that wonderful hive of industry is of a cheap and spurious character, and they may be surprised to learn that a large district of Birmingham is almost entirely tenanted with employers and work people in this trade, that more than 12,000 persons are employed in the various industries connected with gold, silver, and other jewellery, and that most of the best jewellers use none worse than the 18-carat fine.

An exhibitor named Neal has hit upon a clever expedient by which cheapness is combined with excellence of material; a hollow tube of genuine gold is worked up into a watch chain by which means the article is of standard quality, but only a small quantity of the precious metal is consumed. The idea of a pair of beetles hanging from the ears of a lady of fashion is not pleasant, even when the insects are of Peruvian extraction, yet, if any one could overcome the natural antipathy to see creeping things innumerable converted into ornaments, it is Mr. J. R. Ward, whose case of bird, beetle, and claw jewellery always attracted a crowd of admirers; nothing could be prettier or more original than a garnet humming bird pendant, a bird and beetle head dress, and some tastefully got up leopards' claws. From Australia came some specimens of Marine jewellery, the principal

novelty of which was produced by a shell fish, which takes a fine polish, and when completed is of a delicate green and white mixture resembling the green onyx. For extraordinary cheapness combined with tastefulness of design, Bavaria must claim the first position, bright colours were arranged without tawdriness, and brooches and earrings were to be purchased for eighteen pence per dozen sets.

We must conclude this section with an account of the greatest marvel in art workmanship ever exhibited—the Guicowar Chuddah. A portion of this extraordinary work, the value of which was estimated at something under 100,000*l.*, was exhibited in Bombay in the year 1868. It was one of the smaller pieces which, thanks to the exertions of Sir Seymour Fitzgerald, late Governor of Bombay, were lent to the Exhibition of this year. The Guicowars of Baroda are Hindoos, but the late Guicowar Khunderao was a patron of all religions; the Chuddah (or sheet) was intended to be spread on the famous tomb of Mohammed at Medina. It consists of one large cloth about nine feet square, and of several smaller pieces four feet square; the groundwork is of seed pearls on which the most elaborate and graceful arabesques are traced in diamonds, emeralds, rubies, and blue glass beads. The cost of the entire Chuddah is one of the wonders of modern India, it is said to have amounted to a million sterling. Possibly the late Guicowar may have paid that sum, but probably not a quarter of it was spent on the Chuddah itself.

Attention is next invited by the many rare specimens of carving and *repoussé* work which were to be found in the greatest perfection in the Indian and Burmese Annexe; for as yet no artificers in Europe can approach their rivals of these eastern countries. Some marvellously elegant specimens were displayed in a very small space; a Burmese sword with carved ivory hilt and scabbard of open-work silver, an elaborately wrought spice box of silver; while a striking illustration of Burmese *repoussé* work consisted of a silver bowl ornamented with warriors in medallions. A fine example of Cuttack silver work, was a graceful tazza, the upper part classically formed, the lower of an architectural appearance. From Madras came some fine specimens of brass work; from Lucknow and Cashmere the characteristic rose-water bottles, which resemble decorated glass from the delicacy of the material used, and the milky or golden hues of the metal. The Kooftgari work of the Punjaub was also represented. This is made of steel inlaid with gold by a peculiar process, the fine gold wires being hammered into lines previously traced with a probe. Some admirable specimens of the ruddy gold of Burmah were lent by the Countess of Mayo.

It was humiliating to our national pride to perceive in these specimens of art-workmanship a grace and finish to which we cannot attain in spite of all our modern discoveries and appliances of mechanism daily becoming more delicate in their operations. The Indian worker in gold or silver produces the most elaborate and beautiful objects with the rudest tools, and so long as we leave him to himself his models are purely artistic, but as soon

as he attempts to produce European articles from our designs the individuality of the artist is lost and vulgarised. This is shewn by some examples of teapots, sugar sifters, egg-cups, etc. The celebrated firm, Christofle & Co., occupied a large space in the French Annexe, and displayed an admirable collection of works of decorative art. Conspicuous amongst the many first-rate specimens sent by these exhibitors was a fine reproduction in electrotype bronze of the marble door of the sacristy of St. Mark's, Venice ; and a toilet set of solid silver designed for one of the Courts of Europe. The Brothers Susse also showed a fine collection of bronzes, electro-plate, and other artistic productions in metal. Most complete and perfect specimens of metal workmanship were those exhibited by Belgium. The "Compagnie Anonyme Des Bronzes" of Brussels, sent a very boldly-designed chandelier with 48 lights, in the Louis XVI. style, either for gas or candles, besides many other examples of this decorative material. Bourdon de Bruyne, of Ghent, contributed a case of silver articles, in which were animals in solid silver, as the handles of corks, remarkably spirited in design and well executed. A very artistic specimen by the same exhibitor was a silver-gilt and enamelled chalice of great beauty.

Although Russia was but feebly represented in comparison with her magnitude, for the twofold reason of the then existing Exhibition at Moscow, and the coming Exhibition at Vienna, she took a good position at Kensington this year in regard to metal work. The bronze life-size statue of Ivan the IV., called the Terrible, the first of the Czars, was lent by the Emperor of Russia. It is the most vigorous and admirable work ever executed by M. Antokolsky. The figure is seated on a throne-chair, in his left hand is a rosary, an open book is on his knee ; the head is fine but the mouth expresses merciless cruelty, though this expression is almost contradicted by his eyes. Baron P. Clodt and N. Lieberich sent some groups of animals of singular excellence ; the anatomy was perfect, and should teach a lesson to English students in this branch of art which is so generally neglected with us. A 'Group of Reindeer,' by M. Lieberich, was quite a masterpiece.

The most important contribution to metal art workmanship came from an English firm, although the artist who designed it, M. Ladeuil, is not an Englishman. The Elkington Vase was one of the most important features in the 1872 exhibition. M. Ladeuil devoted nearly five years to the production of this work of art, and may be warmly congratulated upon the result of his labour. The vase is in the Renaissance style ; on the one side are four of the Muses, and on the obverse side are the remaining five. The handles of the vase carry escutcheons, which bear respectively the names of Homer, Shakspere, Molière, and Byron ; Handel, Beethoven, Haydn, and Mozart. On the summit are two genii, one holding the lyre of Apollo, the other testing the harmonic strain. Draped female figures, representing music and poetry, are seated in graceful attitudes at each end of

the vase. Round the outer border of the plateau are bas-reliefs illustrative of epic and heroic poetry, tragedy, comedy, ode, elegy, sacred, satirical, military, dramatic, bacchic, dance, and pastoral music. Under the vase and between the reliefs in the centre of the plateau are two oval bas-reliefs, one occupied by Pegasus, bearing a genius typifying Inspiration; the other by a winged griffin, carrying the genius of Imagination. With the exception of the two large statuettes, which are modelled and cast in silver, the entire work is executed in *repoussé* silver, relieved with steel damascened with gold. It is quite impossible by a verbal description to convey to the reader an idea of the delicate beauty of this great work, of which some very good photographs have been taken, and without which no art-album can be considered complete.

Messrs. Cox and Sons exhibited two sets of communion plate, one of which, by B. J. Talbert, was composed of silver and blue enamel. The effect of this was somewhat too gaudy for the purpose intended. The other, designed by the Ecclesiological Society, was of silver-gilt, jewelled with rubies, remarkably chaste and beautiful. Some very fine specimens of metal-work were sent from the South Kensington Museum, amongst which were two remarkable objects, the one a book cover fashioned from steel, gold, and lapis-lazuli, the other a shield in *repoussé* steel and silver.

Of the glass and porcelain examples of decorative art there was an excellent display. Bonnefoy, so famous among painters for his matchless frames, exhibited a very elegant oval looking-glass, the design for the frame of which was quite original; and also a mirror framed in finely-cut glass. The effect of the latter when lighted up was dazzling in the extreme. Frames were shown of fragile porcelain flowers, which appeared to have been made by fairy fingers, and also of bright blue Venetian glass. These last were most effective. Two specimens of painted glass came from Austria (A. Neuhasser), the one "The Adoration of the Three Kings," the other "St. Peter and St. Paul," copied from an ancient window.

Those readers who can remember the English glass manufactures of twenty years ago would appreciate the wonderful advance which has been made since that time, when they looked at a case full of specimens of engraved glass exhibited by Mortlock. It is doubtful whether any other country could produce such exquisitely delicate examples of workmanship.

In the production of porcelain France still keeps the foremost place. Although the contributions from Sèvres were not very numerous they were for the most part of unrivalled beauty. Two vases inlaid white upon white, and decorated in the Persian style, were notable specimens of pure art, as were also a pair of vases, Louis XV style, blue ground, "pâte tendre," "Medallions of famous Women."

Almost hidden away, in an obscure corner, were some exquisite examples of artificial flowers in porcelain. The delicacy of manipulation required to produce these fragile bouquets fairly

entitles them to be classed amongst art workmanship. The flowers were exceedingly true to nature, but the green foliage bore too vitreous an appearance to be quite natural.

A speciality of the 1872 Exhibition was the adaptation of porcelain to decorative furniture and walls. Deck, from Paris, made an excellent show of decorative panels in *faïence*, as well as porcelain squares for dining-room flooring, halls, and other domestic purposes. In the French Annexe was a handsome book-case in ebony, with enamelled *plaques* and bronze mountings, suitable for an old mansion ; as well as a delicately-carved cabinet of ebony, with *plaques* of enamelled porcelain. From Minton and Co.'s Art Studio came a very beautiful collection of decorative pottery. Four panels on red ground deserve special notice, not only for their elegance, but also for their extraordinary cheapness. The time is not far distant when we may hope to see our walls tastefully decorated with this durable material, which will never require re-painting, and seldom renewing, and when our floors will be adorned with tiles which will not fade. We may here mention the monumental tablets of this material in the parish church of Stoke-upon-Trent. They only need to be seen to be appreciated by all lovers of ecclesiastical decoration. A specimen of tile enamel painting for wall decoration, exhibited by Mrs. J. Sparks, attracted much notice. This is a branch of industry in which female labour is much employed, it has opened out quite a new field for the industrial energies of educated and refined women.

Messrs. Wedgwood and Sons exhibited a most exquisite pair of painted china waxlight branches, and a frame of painted trays, both perfect specimens of art workmanship. Not many years ago, painted or stained glass windows were quite beyond the reach of private persons, except of the wealthiest class, but they are now procurable at so moderate a price as to place them within the attainment of the general public. Messrs. Cox and Sons set an example which might advantageously be followed by other exhibitors in years to come. They published a neatly illustrated catalogue of the objects exhibited by them, which included four stained glass windows of great beauty. Under the head of church furniture was a carved stone reredos, with panels in hand-painted tiles, subject, "The Last Supper," and an oak silver-mounted and jewelled pastoral staff since presented to the Bishop of Hereford by the clergy and laity of his diocese. This unique specimen of art workmanship is carved from a beam of the old palace at Hereford, built in 1400, and the design is founded on that of an ancient staff discovered in a tomb in Hereford Cathedral. The same exhibitors also displayed models for artistic domestic furniture and decoration, suitable for a drawing room and dining room. The walls of the former were lined with a dado of oak panelling, the small panels being filled with hand-painted tiles, the cornice was of wood (moulded and carved) displaying the enriched construction of the ceiling, below which was painted a floriated border and a deep frieze, with a procession and explana-

tory legend ; the remainder of the wall-space was powdered with ornaments, serving to form a background for the framed pictures. Small mirrors were introduced below the pictures, and a frame for miniatures or medals ; while against the wall was shown some suitable furniture, a dwarf cabinet, and a cabinet for the display of small objects of interest, books, and a what-not. The latter was surrounded by wainscoting having moulded and carved panels, and with a series of panels enriched with heraldic devices, fruit, and flowers, in appropriate colours ; the painting decorations were hunting subjects, with borders carrying out the same idea ; the lower part of the mantel-piece was constructed of marble, tiles, and fire brick, the five panels being fitted with emblematical figures of the five senses ; the upper part of the work executed in oak up to the ceiling, was adorned with heraldry. Many other highly creditable and artistic works were contributed by the same firm, which is second to no other in England as regards the designing and executing of art furniture in all its branches.

It is worth noting that, notwithstanding all the inventive energy of the present era, little original artistic taste is brought to light, and with few exceptions all our most successful works are modelled or designed from the antique. Especially in regard to art furniture are we indebted to the middle ages for our most elegant and elaborate designs. Much improvement may be looked for in this particular branch of art, which has at length become the subject of special study in our schools, by annual exhibitions, as they not only improve the public taste but awaken a spirit of generous rivalry towards other nations in the minds of our working men and women. A proof of this awakening taste is shown in two very beautiful mosaics sent by Messrs. Minton, Hollins and Co., and worked by female students, the one designed by Mr. Solomon Hart, R.A., subject, "Figure of Maestro Giorgio," the other a "Figure of Jean Goujan." Apropos of mosaics, one of the most artistic specimens shown was a table of "Derbyshire Spar Mosaics," exhibited by C. Tomlinson, so cunningly devised that it resembled a delicate painting, and was rivalled only by an inlaid table of Derbyshire black marble shown by J. C. Wren.

Closely allied to, and often used in conjunction with, pottery, is terra cotta, of which some noteworthy examples were exhibited. A glazed terra cotta mantel-piece, as well as several costly ornaments and busts, well represented this branch of art manufacture. Wood carving, both of home and foreign origin, took a good position, but Belgium produced the best specimens of hand workmanship. From Snyers, Rang, and Co., Brussels, came an elaborately-carved oak cabinet, in the style of the Flemish Renaissance. Bontnor and Co., of the same place, exhibited an Amboyna and gold cabinet. Latry et Cie., Paris, introduced some carving in hard black wood, designed for cabinet work and wall decorations; whilst Quéret Frères exhibited two classical candelabra in carved wood, of severe but strictly correct style.

An admirable piece of furniture was a cabinet, exhibited by Messrs. Gillow: a combination of inlaid panelling and rich effects of root walnut. Two cabinets shown by Doulton were noteworthy, from the application of stoneware in the panelling; when combined with the sgraffito decoration the effect was soft and harmonious, but in the other, when combined with rude basso-relievos, it was less satisfactory.

The section devoted to art furniture was so fully represented, that it would be impossible to discuss half the tasteful and beautiful objects exhibited. But, before quitting the subject, a few words may be advisable, upon what, in England at least, is considered an important article of household furniture, namely, the pianoforte. It is not within the scope of this paper to discuss the merits of the many admirable pianofortes, harmoniums, organs, and other instruments from a musical point of view, as their excellences in this respect can scarcely be considered as relating to art workmanship; it is enough to say, that the collection, contributed by all the best makers, foreign and English, was admirable. With regard to the cases and outward adornments of the pianofortes, some were very artistic and appropriate, but others were overladen with ornamentation, and were therefore objectionable to cultivated taste. As an art work, may be mentioned a very remarkable pianoforte case from Spain, carved all over the surface, by Luis Cavage, with Alhambresque ornaments. Such a gorgeous instrument, however, as this, would need to be placed in juxta-position with furniture of the richest and rarest description. A pianoforte, by Biese, of Berlin, was handsomely cased in ebony. In the Albert Hall was shown a most gaudily decorated instrument, a combination of painting and sculpture, crimson and gold. A more chaste specimen, but equally elaborate in design, was exhibited by Henri Herz; the ground work was of white lacquer, decorated with paintings, the legs carved and gilt; the whole in the Louis XVI style. A charming marqueterie piano, by Erard, deserved high commendation. An upright grand, inlaid with ivory and ornamental wood, exhibited by Messrs. J. Hopkinson, was placed in the Fine Arts Gallery, in virtue of its excellence of design and workmanship. Pianofortes were to be seen in cases of tulip wood, satin wood, walnut, mahogany, and ebony, of every size and description, including a pocket grand pianoforte, 5 feet 4 inches long, manufactured by Messrs. Wornum. After a careful examination of the various specimens, it became clear that the plainer the instrument as regards its exterior adornment, the more suitable and elegant it appears. A large grand pianoforte is always a prominent piece of furniture in a room, and when this obtrusiveness is increased by over-colouring or by too much ornamentation, it becomes positively offensive to the eye, especially if the apartment in which it stands is small or fully furnished.

However correct the furniture of a house may otherwise be, there is a want of completeness without carpets, large or small, and to the Indian Annexe we must turn for the best specimens

of this branch of industrial art. In one of the auxiliary courts, Mr. Vincent Robinson displayed a most superb description of silk carpet from Malabar, the colours subdued yet not faded, blended one into the other in a manner not yet attained in any European manufacture, excepting the Gobelins at Paris. A Persian divan carpet, likewise shown by Mr. Robinson, was equally pleasing to the connoisseur on account of its exquisite device and workmanship. The same exhibitor displayed a splendid Madras carpet, 30 feet long, and a Cashmere carpet, with quaint representations of all birds, animals, and fishes known in India. Before quitting this department, a silk velvet table-cover from Delhi, a work of great beauty, deserves notice; as well as some gorgeous specimens of Delhi gold work and floss silk. Braquenié Frères sent some very fine specimens of Aubusson carpets. The national manufactory of Gobelins, in Paris, exhibited seven specimens of needle painting, before which, one could only pause and wonder that the secret of this wondrous art workmanship has for so many years been kept from the world.

Curtains are necessary to complete the furniture of a house, but they were not represented this year, with the exception of a "Patent Felted Fabric on Japanese Paper." As a new invention these curtains are noteworthy, and if the material is as pliant and strong as the inventors (Messrs. Pavy, Pretto, and Co.) declare it to be, no doubt the discovery will prove valuable and economical. The patterns shown were, however, heavy and dingy; time and study, it may be hoped, will overcome this defect.

A striking contrast to this dull fabric, was the delicate lace, fine as spider's web, for which Brussels has always been famous; and yet the foundation of both fabrics is cotton. Hoorrickx and Co., Brussels, displayed a flounce of the most fairy-like texture, fit for the bridal dress of Queen Mab, it was in *appliqué, point gaze*, with the flowers in *relievo*. Other specimens of this most delicate lace were exhibited, and their delicacy was the more appreciated after visiting the English lace, which appeared by contrast, quite coarse and heavy, although there were some very good samples of Irish point, modern point lace, linen Greek lace, and a Honiton point flounce of great value. Several lady contributors sent some admirable imitations of old point. An ingenious and close imitation of Italian guipure, of the 16th century, designed for a pocket-handkerchief, was contributed by Miss A. Marryat; and a perfect reproduction of rose point, made at Bayeux, by Miss Lefébure, attracted much admiration from lady visitors. The St. Petersburg Society of Fine Arts sent two curious specimens of lace, the one ancient, the other modern. Amongst other objects of needle-work ingenuity, was a carpet composed of 14,200 minute pieces of brown and white felt sewn together in a Mosaic pattern, a map embroidered on silver, and an altar frontal embroidered in straw. Of the patience and ingenuity displayed in the execution of these works there is no doubt, but whether the result is worth the labour is very ques-

tionable. The Science and Art Department of Messrs. Cox and Son's establishment, contributed an ornamented velvet rug of a floral pattern worked in silver and gold thread and coloured silk on a red ground, also an elaborate piece of embroidery, white silk ground, with a symbolic representation of the Holy Sacrament in coloured silk and a gold border of birds and flowers.

A part of the Exhibition, which, to a casual observer would have seemed to possess little interest connected with art workmanship, was the stationery and printing section, occupying a large portion of the building, and in attraction for the public fully rivalling the jewellery section. It is impossible to make the raw material from which paper is produced appear interesting, but some of our readers may not be aware that any fibrous material, if it be cheap enough, will answer the purpose for manufacturing this necessary fabric. Mr. Simmonds showed forty different sorts of material for paper-making, including China grass waste, dwarf palm, rice straw, sea wrack, and other substances, as well as papyrus and esparto. The successive operations from the raw material of paper to the finished book, involving processes demanding multitudinous operations, were very carefully represented by Mr. Leopold Martin.

The writing of a letter was a more serious undertaking some thirty or forty years ago than it now is. The large sheet of Bath-post needed to be elaborately folded, then a match was struck, a taper lighted, and not unfrequently an awkward manipulator burnt his fingers with the hot sealing wax. But in some points we have not improved. The texture of the old-fashioned paper was generally better than the mass of what is now sold, while the goose quill, if only properly mended (but this was a troublesome task) was decidedly preferable to the metal substitute, which, in spite of the innumerable varieties produced, is still too often afflicted with an incurable scratchiness.

Coincident with the introduction of cheap postage, paper was made in smaller and more commodious sizes, and this was followed by the simple invention of envelopes, while sealing wax and wafers were rendered unnecessary by the gummed flap, which merely required to be moistened. The whole process, by which 300,000 envelopes were completed and sent away from the Exhibition weekly, was witnessed daily by crowds of interested spectators who looked on with surprise at the young girls and lads who managed the delicately made machinery with such rapidity and dexterity. A sheet of paper three-quarters of a mile long, was placed in a machine and cut transversely to a given size; but as the paper on leaving the machine was too rough for writing purposes, it had next to be glazed, which was effected by interleaving it, sheet by sheet, with plates of zinc or brass, and passing it in small quantities between rollers varying from twenty to forty tons in weight. The operation was repeated until the required surface was obtained. Next followed the punching into the required shape, which was done very rapidly by a small press; the "seal flat" had then to be gummed on

"the nose," that is to say, the portion to be wetted when fastening the finished envelope. The girls employed on this work can gum 4,000 per hour. To dry the gum the blanks are put into a rack heated by steam. The next processes, showing the various forms of stamping in relief and cameo as well as the black bordering, were neatly and rapidly performed, and the envelopes were then ready for folding. Two machines were at work for that purpose, the one feeding and catching without assistance, the other worked much faster but required the attention of two boys, one to feed and the other to catch. The final process of banding is done by hand. Ten packets, each containing twenty-five envelopes, were then sealed up together and ready for market. Thanks are due to Messrs. Dickinson and Co., for this interesting exposition of envelope manufacture. At another end of the building Messrs. Parkins and Gotto had set up a small workshop where several young women were busily engaged in making up quires of note paper. The paper was cut up by one of Wilson's guillotines, and after a little dexterous manipulation was ready for use. Then came the ornamentation. The exhibitors have invented an exceedingly ingenious apparatus for black bordering, it travels over a board and fixes each sheet of paper with marvellous precision, while the operator simply turns a handle and presses the edge of the paper against a frame. In a few minutes the whole board is covered, each sheet having just as much of its surface exposed as the width of black bordering requires; a second operator takes the board and covers it with a black composition, and when dry the paper is ready for packing. The process of die sinking and stamping so as to form medallions, crests, cameos, and other decorations for paper, was also shown by this firm.

Quite a sensation was created amongst English manufacturers by the somewhat late arrival of water-marked paper from the Russian Imperial State Paper Manufactory at St. Petersburg. The artistic beauty and manufacturing skill displayed surprised all judges. This celebrated manufactory is of great extent and, besides all government work, executes private orders both for home and foreign use. All the workmen employed are of military grade, and the general superintendent, Mr. Bowery, is an Englishman, but has lived in Russia for twenty-seven years. Mr. Bowery brought over the articles for exhibition himself, in perfect confidence that they would be unrivalled. The Official Guide to the Exhibition, which was printed before the advent of the Russian specimens, observed:—"The English manufactures surpass all others in water-marked paper. The production of bank-note papers by Messrs. Portal, for Government, and Messrs. Saunders, for general trade, are marvels of this kind of manufacture." This appeared to be no empty boast when written, and the fine frame of water-marked paper exhibited by Messrs. Portal, the production of which we were told cost 500*l.*, bore testimony to the supposed fact. But Russia came, and successfully disputed the pre-eminence of England. A novel

pattern in the machine-made paper is produced by peculiar wire work in imitation of watered silk or moire antique. A portrait of the present Emperor Alexander, was one of the best specimens of pictorial effects.

Besides these diaphanous examples of the art of paper-making, the Imperial manufactory at St. Petersburg sent some specimens of engraving in various styles, together with samples of letter-press and copper-plate printing. One invention, which has been carried out by Mr. Louis Gellert, of the Imperial manufactory, bears the wonderful name of 'electro-transformatypie.' There were also some admirable specimens of a new application of the bichromate gelatine method, called the helio-electrographic process, by means of which a copper plate, equal to an engraved one, is produced very rapidly, and fit for plate printing or for giving a transfer for the lithographic stone.

One branch of art workmanship, namely valentines, requires a complete reform, for, with but few exceptions, the specimens shown were vulgar and useless. There may be, and doubtless are people who would spend five guineas upon a valentine, but why card cases of carved ivory should be smothered in fuzzy pillows of white satin, and evidently sham flowers, it is not easy to conceive. A pretty fan, or card case in an elegant fancy box, with an appropriate motto, would surely be more useful and welcome to the recipient than one of those cumbersome examples of bad taste which appear to increase in vulgarity as they rise in price. Some few, valued at five shillings and less, were much more graceful than their expensive companions. One valentine was positively marked with what may have been a fancy price, namely, 100 guineas.

Messrs. Letts, Sons, and Co., exhibited some rainbow show cards, an invention they have recently patented; they claim for them three advantages, namely, 'novel appearance,' 'cheapness,' and 'rapidity of production.' The first is attained by the variety of tint and delicacy of colour which, unattainable in any ordinary printing process, may be indulged to almost any extent by this new process, as many as twelve colours costing little more than three; the second advantage results from the simple fact that only two operations are necessary to produce an almost endless combination of colours; whilst the third is gained by the whole of the colours being produced at one operation which is so rapid that an order for, say 1,000 six-colour show-cards, could, if necessary, be completed within 48 hours without depreciation of the work done.

Before quitting the subject of stationery some specimens sent by Theyer and Hardtmuth, of Vienna, should be noticed. The envelopes were stamped after the exact similitude of a cameo, colour as well as relief being closely imitated; there were some quaint and ingenious devices which made it appear as though the envelope had been fastened with a hair pin, a steel bodkin, a camel's-hair brush, a tooth pick, or some incongruous article. Mr. Macmichael, heraldic artist and designer to the

Queen, sent an elegant collection of coloured stamps and illuminated embossing upon envelopes and note-paper. Many of the devices were designed by members of the Royal Family.

The various processes of printing, both plain and in colours, were fully represented at the 1872 Exhibition. Take for example the Heliotype process, the pictures produced by which are in effect photographs printed in printer's ink at an ordinary printing press. They are produced with great rapidity, and are as permanent as engravings. The principle upon which the heliotype process is based was discovered by a Frenchman, more than twenty years ago, but circumstances prevented him from working out the scheme. After some experiments and modifications from time to time it was brought to its present satisfactory condition.

Remarkable amongst the inventions of the present century is the art of graphotyping which has made such steady progress towards perfection during the last three years that it will doubtless in time supersede the more laborious and expensive methods now in use for producing art engravings. The process was accidentally discovered by Mr. De Witt C. Hitchcock, an artist and wood engraver of considerable talent and reputation. Requiring one day to correct a drawing upon wood with white, and having none of the pigment at hand, he resolved to make it from the enamel of a visiting card. On removing the enamel with a wet brush, he found to his surprise that the printed letters on the card remained in relief, the ink used in impressing them resisting the action of the water, and thus protecting the enamel underneath. This set him thinking, and soon he commenced making experiments. After many failures, he at length succeeded in demonstrating that the process was as certain in its results as wood engraving, was far less expensive, and could reproduce, line for line, every delicate touch of the artist's work. The process may be thus briefly described :—Upon a sheet of metal perfectly flat, is distributed an even layer of very finely-pulverized chalk, upon which is laid an ordinary steel plate, such as is used by steel engravers ; it is then placed in a powerful hydraulic press, where it is submitted to such pressure that on removal the chalk is found to have assumed a solid compact mass, with a surface equal to an enamelled card, and which is rendered still more solid by a strong coating of a peculiar size. When dried, the plate is ready to be drawn upon, and this is done with a chemical ink composed principally of lamp black, gluten, and a chemical which gives the fluid the advantage of never drying until it comes in contact with the chalk plate. When the drawing is finished, instead of spending hours, as would have been the case had the drawing been made on wood, in picking out every particle of white, brushes are used of various degrees of stiffness, which by hand, and in some cases by a machine, are caused to revolve on the surface, and in a very short time all the chalk untouched by the artist is removed, leaving the ink lines standing up in clear, sharp relief. This engraving can be carried to almost any depth. All that now remains to be done is to satu-

rate what is left upon the plate with a solution which renders all as hard as marble, and it is then ready for the stereotyper or electrotyper, who by the ordinary method in every day use produces a metal block from it by which impressions may be taken to an unlimited extent. We are indebted for the above interesting particulars to 'The Handbook of Graphotype,' a valuable little guide to artists or amateurs who wish to study the subject.

The marvellous improvement which has taken place within the last twenty years in books for children is quite remarkable. Many of us can remember the Tommys and Harrys of the spelling-books, what ugly little monsters they were represented to be, and the hideous mixtures of colours in which the small heroes and heroines of our youthful days were attired. Now, thanks to graphotype and its kindred inventions, children's picture-books are works of art likely to cultivate their opening minds, and awaken in them a love for the beautiful.

Besides plain engraving graphotype can produce colour-work equal to the best chromo-lithography with the great advantage that an unlimited number of copies may be printed. It can be applied to book and periodical illustrations, reproductions of works of art, plain or in colours, engravings of mechanical and architectural drawings and maps, engravings of manufacturers' patterns in one or many colours, and for many other purposes. Artists can draw upon graphotype plates as freely and as successfully as upon wood or stone.

Messrs. Clay, Sons, and Taylor, exhibited some beautiful specimens of wood-cut printing; they consisted of cabinet pictures reproduced in colours, which, at first sight, presented the appearance of chromo-lithographs, though, in reality, they were clever *fac-similes* of water-colour drawings. The colours are most skilfully blended, so that it is impossible to see where one tint begins and the other ends, thus avoiding the crudeness which detracts from the value of most of similar specimens. 'The Fighting Téméraire,' one of Turner's best known pictures; Constable's 'Cornfield,' and Sir W. A. Callcott's 'Crossing the Bridge,' were amongst these excellent reproductions.

Before the opening of the Exhibition of 1872 it was confidently asserted that the illustrations of the arts of printing and lithography would be perfect in all their varied stages and forms; in some departments the promise was fulfilled, but one of the most important branches of this section, namely lithography, was very imperfectly represented. There were some feeble attempts to illustrate it practically, but they were not proportionate to the importance of the art. In point of fact there were were no good specimens of the art exhibited, which is the more to be regretted considering the great improvements made both in lithography and chromo-lithography since 1862, and due, in a great measure, to the establishment of Schools of Design throughout the kingdom which have brought forward some of our best lithographic artists. It is not necessary here to chronicle the progressive advance in this art since its discovery by Senefelder,

it is sufficient to mention a few purposes to which it is now applied, such as direct impression on tin or tinned sheet iron by means of lithography; processes for improving the manner of transferring lithographic prints on to wood, iron, tin, and glass, and a variety of processes in connection with photo-lithography. The progress made in the art of chromo-lithography has been very remarkable, and some of the copies from original paintings taken by this process are such close imitations as to deceive a casual observer, and to make the painter sigh with despair. Chromo-lithography, or colour painting, is produced by means of several lithographed stones, the drawing is done in chalk upon a grained stone, an outline only is sketched; the stone is then etched, and two impressions are taken, so that when each of these is put upon a rough-grained stone and passed through the press, counter impressions will be found upon the stones, revealing the drawing completely fixed. The outline is then cut with a sharp graver, and the artist covers those parts of the stone which are not to appear in colour, as well as the margins of the stones, with a preparation of acid and gum. The stones are then warmed, and a composition is rubbed over them which contains the same ingredients as soft chalk, with double the quantity of soap, and three times the quantity of tallow; the surface is then smoothed down with a piece of coarse flannel until it becomes of a dark greyish-brown hue. From having been previously cut in, the outline comes out very distinctly. A drawing has been chosen for description which requires only two colours, as the explanation will be more easily comprehended by the general reader. The artist is now able to produce an effect equal to crayon sketches which have been washed in with two different colours: the dark grey-brown form the middle tints, and where gradation of colour is required the scraper may be used, whilst the darkest portions are laid on with lithographic ink, and blended together with chalk, brush, pen, and scraper, so as to produce in many places the appearance of shading one colour over the other. The stones when ready must be strongly etched. Such is the mode of preparing the stones for printing in chromo-lithography; the process of printing the tint and colour stones resembles ordinary lithographic printing; it needs skill and taste in mixing the colours and registering the sheet in the different printings.

It would be a great omission when treating of art workmanship to pass over what may prove the stepping stone to fame for many a future artist. The Vere Foster Drawing Books, exhibited by Messrs. Marcus Ward and Co., have done much to encourage a taste for design among the rising generation.

In the section of printing which comes under the head of art workmanship, continental contributors were, for the most part, conspicuous only in their absence. Amongst the few exceptions was a Russian volume containing the Lord's Prayer, printed in 356 languages, and a beautifully illustrated treatise on Russian arms. Belgium also displayed a Royal collection of specimens illustrating the quality and kind of paper manufactured in the

14th, 15th, and subsequent centuries in that country. This yellow time-worn paper was bound in six volumes, its red Morocco cover and gilded edges, forming a striking contrast to the modest interior. Dessain, of Mechlin, who is unsurpassed if not unrivalled in Belgium, contributed a choice group of finely-printed missals and other religious books. Duveluy, of Bruges, who is famous for the production of playing cards, sent specimens of those made for Holland, Spain, Switzerland, France, and India. The Belgian Government, also exhibited a specimen book of types prepared by Guyot, of Brussels.

The Walter printing press, the wonderful performances of which have been witnessed by thousands of spectators in the Machinery Department of the International Exhibition, has been invented and brought to maturity in the 'Times' printing office, by the enterprise and perseverance of Mr. Walter, M.P. For a considerable time the whole impression of the 'Times' has been printed on four of these machines. The Walter Press is what is called a "perfecting" machine, as it prints both sides of the sheet at one operation, and for this reason the 'register' is necessarily perfect, that is to say, the pages on one side are printed exactly on the back of the pages on the other side. The manual skill required in other machines to lay on sheet after sheet with the requisite accuracy is dispensed with. Less ink, fewer inking rollers, and fewer blankets are wanted, there is a greatly diminished waste of paper, and the exclusive use of stereotype plates releases the type from all wear and tear. As the 'Times' is now printed, a reel of tightly-rolled paper, four miles long, and weighing nearly six hundredweight, is placed at one end of the machine, and in the process of unreeling is damped, printed first on one side then on the reverse with unfailing precision, is cut into sheets, and delivered at the rate of fully 12,000 copies per hour. The sole attendants necessary are two lads at the delivery boards, and a striker, who starts the machine, and looks after the rolls as they are unwound. A reel four miles long is printed in about 25 minutes. The paper is led from a reel into a series of small cylinders, where it gets damped, and is then brought between other cylinders, which are encircled by stereotype plates. Here it receives the requisite impression, and is then cut into sheets, each forming a complete newspaper, between two cylinders exactly in the centre of the machine. Mechanical contrivances are also provided for throwing the finished sheets on to the delivering boards, and for supplying and distributing the ink. With presses of the old construction, speed was governed by the dexterity of the layer-on, who could not "feed in" more than 30 sheets per minute, whereas the Walter Press, being regulated solely by mechanical appliances, can produce excellent work at the rate of 17,000 complete copies of an eight page paper per hour.

During the demand for news produced by the Russian War, Mr. Walter first attempted to substitute stereotype for moveable type. The stereotype metal was poured into a box containing a

papier-maché mould, and in twenty minutes a solid page-plate was ready for fitting on the press. Thus, a fount of type, instead of wearing out in two years, might last for twenty, while the stereotype plates were melted and re-melted over and over again. In 1862, Mr. Walter began in the 'Times' office, with tools and machinery of his own, his experiments for constructing a perfecting press which should print the 'Times' from rolls of paper instead of sheets. Numerous difficulties had to be surmounted, and it was not till 1868, that he ventured to order the construction of three machines on the pattern of the first which he had made. By the end of 1869, they were finished and at work in a room by themselves. The printing of the 'Times' is now done in less than half the time it previously occupied, with one-fifth the number of hands, and these unskilled, and with a saving in working cost so great that the capital sunk in the displaced machinery was recouped in less than two years. It is peculiarly fitting that the name of Mr. John Walter should be connected with this triumph of modern invention. His father and namesake was the first to print by steam power; the 'Times' of November 28th, 1814, being for the first time printed in that way, after ten years of extraordinary efforts. It is worth noting that while that machine was invented by two Germans, Messrs. Koenig and Bauer, the credit of the present invention is due to a Scotchman, Mr. J. C. Macdonald, the manager of the 'Times' printing establishment, aided by the mechanical skill of Mr. Calverley, the chief engineer there. We have abridged the above description from an article in the 'Scotsman' newspaper, a journal printed by the same apparatus.

Reverting, in conclusion, to these annual displays at South Kensington, it is worth noting that owing to their frequency they are gradually losing the attractiveness of mere novelty, and are less likely as the years go on to invite that multitude of mere sight seers who flocked to the Exhibitions of 1851 and 1862. Nevertheless, built as the galleries are round a charming ornamental garden, they will always remain a pleasant lounge. But the Commissioners ought to do all they can to make them something better than a mere lounge, and this can only be accomplished by enforcing a very high standard and admitting nothing that does not really possess considerable merit. Such a plan, rigorously carried out, would greatly lessen the number of objects exhibited and would add largely to the satisfaction of the intelligent visitor who does not want a repetition of London shop windows. In the Fine Art department, for example, bare spaces in the walls would be far preferable in these days of innumerable picture galleries, to a host of third-rate paintings. And as one of the special features of the 1873 Exhibition consists in the display of substances used as food, it is to be hoped that this show (not very attractive at the best) will not be allowed to degenerate into a wearisome succession of advertisements from "enterprising" grocers, tobacconists, and wine merchants.

ARTHUR LOCKER.

CAPITAL AND LABOUR IN 1872.

Among the various social phenomena arising from the remarkable and almost unprecedented development of English commercial and industrial undertakings during the last few years, not the least interesting or important is the marked change produced in the general condition of the labour market, and in many of the relations hitherto subsisting between Employers and Employed. One of the great difficulties with which the labouring classes have frequently had to contend in their efforts to obtain more favourable terms of employment has been the existence of a large and apparently inexhaustible supply of surplus labour. Workmen might strike as often as they pleased for higher wages or reduced hours of toil, but there were always a number of others ready to take their places and fulfil their duties under even less favourable conditions. Except in certain trades, where a comparatively high standard of skill is demanded, the majority of strikes have resulted in simply increasing the number of available hands, without causing any corresponding rise in the rate of wages, which, consequently, had to be divided amongst a larger number of recipients, or, in other words, a reduction of wages was rendered inevitable. The extended employment of women in the manufacture of clothing, and of agricultural labourers in the manufacture of boots and shoes, may be said to have originated in the repeated strikes of the regular workmen. It is in this manner that strikes, notwithstanding the plausible arguments of Trades Unionists, have tended to depress rather than raise the rate of wages. Whenever wages have exhibited a tendency to rise it has been because the amount of surplus labour in the market had become proportionately diminished in consequence of increased means of employment, emigration, or other causes. Mr. Thomas Brassey, M.P., than whom none could be found better qualified to express an opinion on the subject, in his volume entitled 'Work and Wages'* expresses his disbelief in the efficiency of Trades Unions for the purpose of regulating the rate of wages. It is not the Trade Union which makes wages rise at a given time, but the competition of employers, who, when there is a demand for labour, outbid each other for the purpose of securing it. The experience of Mr. Brassey coincides with that of all who have carefully and dispassionately studied the workings of Trade Unionism. The most protracted strikes, with few exceptions, have not been for the purpose of securing an advance of wages, but for resisting a fall. Instances of this are afforded by the Engineers' strike in 1852, the Preston strike in 1853, the Iron Trade strike in 1865, and the Wigan Colliers' strike in 1868. In each of these instances the reduction of wages was energetically resisted by the men, but, despite the power of the Trades Unions, the men ultimately had to accept the terms offered by the employers. The money

* London: Bell and Daldy. 1872.

loss to employers and employed by these four strikes has been estimated at a quarter of a million sterling, a sum apparently far below the mark. The true policy, therefore, of the various Trades Unionists would have been to attempt the discovery of some means of absorbing or diminishing the amount of surplus labour which formed such an incubus on their efforts. But the task was too vast for their resources, and they preferred attempting practically to limit the number of individuals employed in their respective trades. Hence the numerous rules and regulations prohibiting employers from having more than a certain number of apprentices, defining what each workman should or should not do, or—as in the building trades—preventing the workmen from making themselves generally useful. All these arbitrary enactments, whatever might be the excuses urged in their favour, had but one object—the artificial restriction of the number of workmen employed and the consequent maintenance of a high rate of wages. In a like spirit, the introduction of machinery has repeatedly been opposed, save on the terms laid down by the men. Thus it was that—a few years ago—the Northamptonshire boot and shoemakers fiercely opposed the use of the sewing-machines now to be found in nearly every workshop. By so doing, they drove a considerable portion of their trade to Leicester, Kendal, and other places, where numbers of labourers and others applied themselves to learning the art of shoemaking. When the strike terminated, owing to the acceptance by the men of the use of machinery as inevitable, it was estimated that their mistaken policy had resulted in increasing the number of workers to the extent of from 15 to 20 per cent. With every increase in the number of workmen, unless accompanied by a corresponding increase in the demand for labour or in the amount of the wages fund, the difficulty of artificially controlling the rate of wages becomes more and more perceptible. But this is a fact which Trades Unionists generally refuse to recognise; hence their numerous failures. To them, as to the greater portion of the labouring classes, the doctrines of Political Economy appear to operate unfairly, to be intended as an instrument in the hands of Capital with which to tyrannise over Labour. One effect of this lamentable prejudice has been to prevent workmen from availing themselves of the lessons to be derived from a study of the fundamental principles on which the doctrines of Political Economy are based and thus avoid the disastrous errors committed by them in their ignorance of the inutility of the policy so often recommended by their leaders. It may appear a truism, but the one great truth which the labouring classes have yet to learn is that no efforts, however powerful or persistent, on the part of their trade organisations can permanently raise the rate of wages, unless the increased scale of pay be accompanied by a proportionate increase in the demand for labour; and that, on the other hand, no combination on the part of employers, however wealthy or influential, can prevent wages from rising when a decrease takes place in the

amount of surplus labour; in other words, when the demand for labour begins to overtake the supply. An illustration of this latter fact is to be found in the present state of industrial affairs in this country, the demand for labour being so great that good workmen experience little or no difficulty in obtaining employment at remunerative wages; indeed, the dearth of labour is so extensively felt, that more than once it has been recommended that a supply of labour should be obtained from those parts of the continent in which the labour pressure is less perceptible.

To whatever cause or causes may be ascribed the astonishing degree of national industrial activity and prosperity which has led to the present increased demand for labour, there can be no question that it constitutes one of the great social events of the present century, and is destined to play an important part in the elucidation of more than one of those important social and industrial problems, the solution of which has so frequently baffled the earnest efforts of our most thoughtful men. The magnitude of our commercial and industrial operations at the present day is shown by the following table, in which is given the amount of imports into and exports from the United Kingdom, stated in real value, in each year from 1862 to 1871, inclusive :—

Years.	Imports.	Exports.		
		Produce and Manufactures of the United Kingdom.	Foreign and Colonial Merchandise.	Total. Exports.
	£	£	£	£
1862	225,716,976	123,992,264	42,175,870	166,168,134
1863	248,919,020	146,602,342	50,300,067	196,902,409
1864	274,952,172	160,449,053	52,170,561	212,619,614
1865	271,072,285	165,835,725	52,995,851	218,831,576
1866	295,290,274	188,917,536	49,988,146	268,905,682
1867	275,183,137	180,961,923	44,840,603	225,802,529
1868	294,693,608	179,677,812	48,100,642	227,778,454
1869	295,460,214	189,953,957	47,061,005	237,015,052
1870	303,257,493	190,586,822	44,493,755	244,080,577
1871	330,035,143	222,519,777	59,860,949	282,380,726

Here it will be perceived that while, during the ten years named, the value of the foreign and colonial merchandise exported by us has been subject to great fluctuations, that of our home produce and manufactures has exhibited a progressive increase. But more clearly to understand the actual condition of the labour question, we must bring the figures up to the middle of 1872. During the first six months of 1872 our imports amounted to 171,451,000*l.*, and our exports to 119,604,000*l.* During the same period in 1871, our imports were 155,053,000*l.*, our exports being 101,638,000*l.* In 1870, the imports during the first six months amounted to 138,368,000*l.*, and the exports to 97,109,000*l.* A comparison of these figures will show that the value of our imports during the first six months of 1872 exceeded by 16,398,000*l.*,

those of the corresponding period in 1871, and by no less than 33,083,000*l.* that of 1870. Our exports during the first six months of 1872 exceeded by 17,966,000*l.* and 22,495,000*l.* those of the corresponding periods in 1871 and 1870. The excess in the value of our imports compared with those of our exports, is attributable to various causes, such as the increased prices of raw materials, and the large quantities of animal food required to supply the deficiency occasioned by the ravages of disease amongst our flocks and herds. During the first six months of 1872 the value of our imported food exceeded by 4,000,000*l.* that of similar imports during the corresponding period in 1871. The increasing demand for raw materials has not only caused a rise in prices, but has also occasioned a tendency to accumulate stock in anticipation of further demands and yet higher prices. We are, in fact, importing raw material faster than we can consume it, not from lack of orders, but because of the deficiency of labour. The increase in the value of some of these imports is shown in the following tables :—

Quantity and value of the undernamed textile materials imported during the first six months in each of the years 1870, 1871, 1872.

		1870.	1871.	1872.
Cotton, raw	cwt.	5,895,000	9,708,000	8,316,000
	£	30,597,000	35,507,000	35,691,000
Flax	cwt.	905,000	814,000	893,000
	£	2,359,000	1,819,000	2,315,000
Hemp	cwt.	264,000	499,000	470,000
	£	531,000	916,000	917,000
Jute	cwt.	1,623,000	1,745,000	2,519,000
	£	1,575,000	1,888,000	2,703,000
Wool:				
Sheep and lambs'	lb.	169,821,000	191,561,000	207,199,000
	£	10,339,000	10,348,000	12,280,000
Alpaca, vicuna, and llama	lb.	1,874,000	1,438,000	2,227,000
	£	220,000	186,000	304,000
Goats' (and hair)	lb.	804,000	2,855,000	2,393,000
	£	147,000	318,000	255,000
Rags, torn or not, to be used as wool	lb.	19,993,000	23,864,000	34,919,000
	£	210,000	239,000	297,000
Yarn for weaving, mixed or not with silk	lb.	5,064,000	5,822,000	7,434,000
	£	818,000	520,000	860,000

It will be seen that in 1872 we are actually paying more money for less quantities of cotton and flax than in 1871. The increase in our wool imports is very remarkable, especially the supply of woollen rags, torn or not torn, to be used as wool. In round figures we imported 20 million pounds of these rags during the first six months of 1870; during the corresponding period in 1871, the quantity was 24 million lbs., but in 1872 it rose to 35 million lbs. In our exports the increase is confined not merely to a few particular articles, but includes nearly every possible description of home manufacture, our principal customers being Australia, Canada, the United States, Germany, France, Holland, Italy,

Belgium, Austria, Sweden, and Brazil. The industrial effects of the South African diamond discoveries are illustrated by the enormous increase in the value of our exports to the Cape of Good Hope. During the first six months of 1870 and 1871, the value of these was 728,284*l.* and 727,724*l.* respectively, but during the corresponding period in 1872, it rose to 1,515,431*l.*, or more than double that of the two before-named periods. One direct effect of this extraordinary expansion of manufacturing industry has been an unprecedented increase of railway goods and passenger traffic, especially during the first nine months of 1872. Never before have our railways done so much business, and but for the losses entailed by past mismanagement the returns to the shareholders on some of the lines would have been considerable. Thus the directors of one railway, the North British, were enabled at their last half-yearly meeting to state that their receipts during the first six months of 1872 exceeded by 90,000*l.* those of the half year immediately preceding. This increase of railway traffic continues in a rapidly augmenting ratio. Thus the earnings of the Midland Railway during July, 1872, were 90,000*l.* per week; in the following month they were 96,000*l.*; and during September they were still larger. The weekly earnings of the North-eastern Railway during July, 1872, were 101,000*l.*; in August they had risen to 113,000*l.* A portion of this increase may be attributable to the railway companies having raised their charges for conveyance of goods in consequence of the increased cost of labour, coal, and iron; but, unless the industrial condition of the country was unusually prosperous, the weekly receipts of the different railway companies would have exhibited a falling off, or, at least, have remained stationary. Equally remarkable has been the effect of our industrial prosperity upon the shipping interest, there being a considerable increase in the British and foreign tonnage entering and clearing at the various ports in the United Kingdom. In 1871, the number of tons of shipping rose from 36,640,182, in 1870, to 41,547,878, being an increase of 13 per cent., and the returns for 1872, promise to show a yet larger increase.

With these interesting facts before us, we can the more readily understand the advantageous position in which the labouring classes have suddenly found themselve for the purpose of obtaining many concessions from their employers, concessions which in less favourable times it was hopeless to demand, even when the request was backed by all the most powerful and elaborated machinery of Trades Unionism. As orders commenced flowing in, employers required more workmen, and the available amount of skilled labour having become diminished from emigration and other causes, it was not long before the demand for labour began to exceed the supply, and then we had the curious spectacle of the employer going to the workmen, instead of the workmen going to the employer. As Lord Derby recently observed, we were becoming over-burdened and inconvenienced by our own prosperity. Instead of a competition for employ-

ment, we had a competition for labour. In former seasons of industrial prosperity the rate of wages seldom rose beyond a certain narrow defined limit, save in a few exceptional instances, because, however extensive the demand for labour might become, it never wholly absorbed the labour surplus in the market. But of late years the tide of emigration to the United States, Australia, and Canada has proved so large and steady, that the possibility of some such contingency as the present has repeatedly been foretold. During the ten years 1861–71, nearly one-fifth of the natural increase of population in England and Wales was removed by emigration, in Scotland the amount was one-third; in Ireland the number emigrating was equal to double the natural increase of population. Ireland formerly furnished a considerable portion of our surplus labour, especially in the cotton-manufacturing districts, where strikes were generally followed by an extensive immigration of Irish population, whose poverty rendered them willing to accept lower terms than those of the regular workmen. At Preston, Blackburn, and other cotton-manufacturing towns, the number of Irish operatives is very large, for it is a significant fact that when once the Irish labourer becomes initiated in the ways of English factory life, he prefers – when possible—remaining in England to crossing the Atlantic. In times of industrial adversity, however, the Irish labouring class, belonging, as most of its members do, to the least skilled portion of the operative community, are the first to feel the effects of privation and listen with eager ears to the offers of the Emigration Agent. During the prevalence of the cotton famine in Lancashire the Irish formed a large percentage of those emigrating to the United States. But the very means taken by us to relieve the dearth of employment in times of adversity would, it was predicted, prove a grave industrial drawback when the sunshine of prosperity again began to smile on us. Still we could not expect the labourer to wait and starve lest the employer should be inconvenienced; if there was not work for him at home, he had a right to seek it abroad. In so doing he ceased to be a burden to us; instead of remaining a pauper, he became a customer. This is illustrated by the increasing extent of our exports to Australia; with the increase of population in that distant country the larger becomes the demand for English goods. It has, however, been objected that in permitting our skilled artisans to emigrate to other countries we are preparing the way for future industrial rivalry. This may be true to a slight extent, but no country can excel in those industries for which it is not primarily fitted by climate and natural resources, and, in like manner, where these are favourable nothing can prevent the successful development of such industries. The wholesale immigration of French silk and velvet weavers to this country in consequence of the revocation of the Edict of Nantes caused the silk and velvet manufacture to become strongly established here, but it has never enabled us to compete with the continental manufacturers. Lyons still retains

its supremacy over Spitalfields, and Macclesfield finds its silk manufactures hopelessly dependent on the assistance of Italy.

The effects of the growing demand for labour soon became apparent in the gradually increasing number of strikes for higher wages in all parts of the kingdom ; these strikes were not confined to any particular trades, neither were they always the result of Trades Unionist organisation. They rarely proved unsuccessful, although the workmen seldom gained all that they demanded, the disputes generally ending in a compromise. The first really serious conflict on an extensive scale occurred at Newcastle, where the workmen employed by the various engineering firms sent in to their employers a demand for increased rates of wages and reduced hours of labour. At any other time such a demand would have been met with a decided negative, and in fact many of the employers were at the outset disposed to attempt strong measures with the men, but it was soon perceived that a more conciliatory policy would have to be adopted. The journeymen engineers of Newcastle belong to the most intelligent and thoughtful portion of the labouring classes, and when they began to speak of emigration some of the employers began to think that victory might be purchased at too high a price. The dispute led to numerous newspaper controversies, in several of which Sir William Armstrong defended with singular ability the course adopted by him and his brother employers. As the contest progressed both masters and men appeared to comprehend that other than local interests were involved ; that on the results of the struggle would depend the action of large bodies of workmen in the more important branches of manufacturing industry throughout the kingdom. At last, the struggle ended in mutual concessions, each side claiming the victory. During the dispute an attempt was made by the employers to introduce foreign labour, but this, from some cause or other, resulted in failure. The strike at Newcastle was immediately followed by numerous others, especially in the colliery districts, where the increasing demand for coal occasioned a corresponding demand for labour. As the successful strikes became more and more numerous, a kind of strike mania appeared to break out in all directions, and announcements of fresh strikes and lock-outs became ordinary items of newspaper intelligence. The mode of procedure adopted by the workmen was almost monotonous in its uniformity. Where no trades union existed a meeting of workmen in a particular trade would be convened, at which proposals would be made that the men should unite in demanding higher wages and, where necessary, improved terms of labour. If there was any approach towards unanimity on the part of the men the requisite measures for enforcing these demands were at once taken, but if the difference of opinion amongst them was too strong the leaders would defer action until a more favourable opportunity. Here we have an explanation of the small proportion of unsuccessful strikes during the last few months, showing that workmen are beginning to display more judgment than formerly in the conduct of their

trade disputes. A list of all the strikes and lock-outs which are recorded as having taken place during the last twelve months, would show that there is scarcely a branch of industry which has not been affected by the movement, by no means its least characteristic feature being the importance evidently attached by the men to a reduction of the hours of labour, to secure which they have frequently offered to forego an increase of wages. An instance of this was afforded by the struggle of the London journeymen bakers who for many years had sought to procure a diminution of the excessive hours of toil to which they were subject. While the builders' workmen were loudly declaring that nine hours formed a fair working day, the journeymen bakers were to be found labouring twelve, fourteen, sixteen, and even twenty hours per day, in close, hot, stifling cellars, in which proper ventilation was simply impossible. Generally speaking the employers in the different trades have evinced a desire to comply with the demands of the employed for increased wages, but with respect to the request for reducing the hours of labour they have invariably shown the utmost repugnance, declaring it to amount practically to a further limitation of the labour supply. This argument is very strongly supported by many whose experience entitles them to speak with authority, and who state that if the nine hours became general foreign manufacturers, who suffer from no such restrictions, would become enabled to compete more closely with our own. Whether this would or would not be the case, it is certain that the effect of the strike movement has been to cause a general rise in wages, varying from 10 to 35 per cent., thus rendering the skilled English workmen among the best remunerated in the world. In no European country do wages rule so high as in the United Kingdom, and in no country are prices rising more rapidly, for every increase of wages and limitation of the hours of labour adds to the cost of production. This is shown by the difference of price in certain articles during an interval of a few months, especially in the hardware districts, in which the manufacturers complain of the increased cost of metal and fuel. The 'Statistical Journal' recently gave a list of sixty articles in which a marked advance had been made, the period of comparison being June, 1872, with September, 1871, an interval of nine months. A glance at this list shows us that the increase in the price of iron bars is 53 per cent.; copper, 53 per cent.; copper sheets, 50 per cent.; tin plates, 48 per cent.; nickel—used in making "German silver"—41 per cent.; yellow metal, 54 per cent.; regulus of antimony—a principal ingredient of "Britannia metal"—67 per cent.; brass, 53 per cent.; iron gas tube, 117 per cent.; galvanized buckets, 42 per cent.; chains, 55 per cent.; wrought nails, 50 per cent.; cut nails, 95 per cent.; cast-iron wall and lath nails, 44 per cent.; frying pans, 67 per cent.; cut tacks, 50 per cent.; brass tubes, 44 per cent.; brass wire, 44 per cent.; and copper wire, 43 per cent. The other articles have also shown a great rise of value, but not so great as those above-mentioned. In the cotton

manufacture the increased cost of production has become so great that profits have fallen to a minimum. It is stated that, compared with the cost eighteen months ago, there is an increase in the cost of building—inclusive of steam-engines and mill gearing—of about 30 per cent.; of machinery the average cost has advanced 50 per cent., and coals 60 per cent. Then there is the increased cost of labour to be taken into consideration, also the fact that, in consequence of the Factories and Workshops Acts, the supply of cheap child-labour has become reduced to at least one-half.

But high as prices are at the present time, they are far from approaching those prevailing during the earlier portion of the present century, as may be ascertained from the following table, showing the cost of one year's consumption of five domestic necessaries during the years 1816 and 1871, in a family of four adult persons, one man and three women :—

	In 1871.	In 1816.
	£ *s.* *d.*	£ *s.* *d.*
Lump sugar	2 3 0	7 10 0
Raw sugar	2 10 10	8 10 0
	4 13 10	16 0 0
Tea	3 11 0	8 3 6
Soap	1 14 4	5 0 0
Flour	8 0 0	16 0 0
	17 19 11	45 3 6
Butchers' meat	11 17 9	—
Bacon	9 1 3	—
	38 18 11	38 18 11
		6 4 7

From the above it will be seen that in 1871 a year's supply of lump sugar, raw sugar, tea, soap, and flour, cost 17*l.* 19*s.* 11*d.*, against 45*l.* 3*s.* 6*d.* in 1816, and that if the cost of butcher's meat and bacon be added, the workman's housekeeping bill in 1871 is still less by 6*l.* 4*s.* 7*d.* than that of 1816. In 1816 salt was 5*d.* per lb.; candles 1*s.* 3*d.* per lb.; currants 1*s.* 2*d.* per lb.: and so on; clothing was very dear, especially cotton goods, a pair of men's cotton stockings costing 5*s.* 6*d.*, and everything else in proportion. A workman's average wages could not procure so many necessaries or luxuries as at present, nor could he avail himself of the numerous modes of cheap intellectual and social recreation with which the artisans of 1872 are so familiar. The use of gas in workshops and dwelling-houses was unknown, travelling was slow and expensive, cheap literature was a thing undreamt of, free libraries, picture galleries, and museums had not become regarded as means of popular education; in fact, the social condition of the workman in 1816 was almost a complete reverse of what it is at the present day. Nor was this all; the tendency of legislation was against him, every attempt on his

part to combine against his employer was visited with severe penalties, strikes were regarded as acts of sedition, and Trades Unions as conspiracies against public order; while the large and increasing amount of surplus labour in the market invariably foiled the efforts of the regular workman to obtain higher wages. In almost every respect the workman of 1872 is better off than was the workman of 1816. His increased means enable him to obtain numerous pleasures and enjoyments unknown to his predecessors. For him railway companies run cheap excursion trains; for him we have penny newspapers; in fact, the workman seems now to be as much respected as he was formerly feared. In nothing is this more observable than in recent legislation with respect to Trades Unions. Those organizations no longer inspire the alarm once occasioned by them, and it is generally admitted that the violent outrages of which the Sheffield Unions have so repeatedly been guilty do not meet with the sympathy of the great mass of unionists, who, however strong their dislike for non-unionists and independent employers, are fast learning that violence and intimidation invariably injure their cause in the long run. Possibly much of the violent spirit formerly pervading Trades Unionist policy was the result of the severity of the laws relating to workmen's combinations, which until within the last two or three years were regarded as illegal, however much the members respected the rights of those who disagreed from them. Moreover, employers were permitted to combine, although that right was refused to the employed, an injustice of which the men were never weary of complaining. But social legislation was then in its infancy. Our lawmakers could not understand that however erroneous or unsound the doctrines of Trades Unions might be, it was manifestly impolitic to punish men for merely believing in them, so long as they did not forcibly attempt to interfere with those who held different opinions. But in an age when popular education was regarded as revolutionary, what else could we expect? Our predecessors invoked the aid of the gaoler; we have recourse to the schoolmaster. Mark the results. If strikes have never been so numerous or so extensive as during 1872, never have there been fewer cases of intimidation or denunciations of obnoxious workmen and employers than during the same period. Both sides have exhibited an extreme sensitiveness with respect to public opinion, and in their desire to stand well with the public have displayed no little moderation in their speeches and general policy. With the spread of this conciliatory feeling has arisen a more general desire to refer to Arbitration, where practicable, as a means of settling trade disputes, although the formation of what are termed 'Councils of Conciliation' does not seem to have gained much additional favour among employers and employed, it being found that where a disposition exists in favour of Arbitration, there is seldom any lack of persons qualified to act as Arbitrators.

The system of Industrial Partnerships has been recommended

as a means of preventing strikes, by its enabling the workmen to participate in the profits of the establishment in which they are employed. In a few instances the bonus is offered by the employers without exacting any considerations from the employed, but in the majority of cases the workmen have to become partners in the concern by taking one or more shares, the value of the shares ranging from 1*l.* to 25*l.* each. All profits, up to a certain point, are divided among the shareholders, a portion of the surplus profits being divided among the workmen. A workmen-shareholder would, therefore, receive, 1st, his current rate of wages; 2nd, his dividend as shareholder; 3rd, his bonus, if any, as a workman. In this way the men are led to take an active interest in the business, and feel an unwillingness to have recourse to strikes or needless disputes, because any suspension of business operations can only result in loss to themselves. The system of industrial partnerships seems to have worked well wherever it has been allowed a fair trial, and is preferred by the workmen, as a class, to the establishment of co-operative factories or workshops, in which the lack of business management is frequently a source of considerable loss. The principal obstacle to the progress of the industrial partnership system is to be found in the reluctance generally evinced by large firms to permit the real amount of their profits to be made public; yet, without a certain degree of publicity, it would be difficult to convince the men that faith was being kept with them. In Lancashire and Yorkshire the numerous co-operative stores and manufacturing associations formed by the workmen, have exercised a material influence on the relations between employers and employed, by rendering the men more independent of their masters, yet, at the same time, from their knowledge of the difficulties experienced in successfully managing an extensive business, more considerate towards their employers during seasons of industrial adversity. The extent to which the workmen have availed themselves of the principles of co-operation is shown by the fact that the amount of capital involved in them at the close of 1871, amounted to about 7,000,000*l.*, the average profits on which were not less than 26½ per cent. As from the very first, the Rochdale Co-operative Associations maintain their place at the head of these remarkable organisations, the promoters of which, not content with their successes, are now busily engaged in the endeavour to establish a Co-operative Bank. In 1870, the initiatory steps were taken at Manchester in connection with the North of England Co-operative Wholesale Society, an association formed by upwards of 250 co-operative societies leaguing together for the purpose of purchasing wholesale on the largest possible scale, and thus enhancing their profits. In addition to possessing a membership of 250 stores, the society has upwards of 200 others doing business with it, so that the extent of its trading operations is something enormous. The society, having accounts with the Manchester Branch of the Bank of England, the Manchester County Bank, and the Manchester and Liverpool

District Banks, commenced its new labours by receiving loans from members, payable at call, and subject to 1 per cent. below the minimum Bank of England rate of interest; the same to be used in the business of the society. Within one month from the commencement of the new system, no less than 30,000*l.* were deposited, additional sums being daily received. It is now proposed to go a step further, and, until the Industrial and Provident Societies Act can be amended, to open accounts with a London bank, having branches in Lancashire and Yorkshire, by which means the various societies would, it is asserted, obtain control over their own funds, also securing the transmission of money more cheaply between each other and the merchants with whom they deal, besides earning a better interest in their balances, the sum of which is roughly estimated at 500,000*l.* These facts deserve attention, because in proportion as working men become acquainted with the details of business management, and perceive that something more than mere manual skill and labour is required to carry on a trade successfully, the less likely will they be to fall into the blunder of regarding Capital as the enemy of labour.

But it is in the agricultural districts that we must look for the most remarkable effects of the increasing demand for labour. That the social condition of the agricultural labourer is capable of considerable improvement is generally admitted; the difficulty is as to the manner in which the necessary change should be effected. This arises partly from the fact that the condition of the farm labourer varies according to the county in which he may be employed. If it be a purely agricultural county, with few roads and little railway communication, as in Somersetshire or Dorsetshire, his wages will be found at the lowest, varying from 10*s.* to 14*s.* per week; but if it be a county in which there are large manufacturing towns his wages will be found to rise to a maximum. In Northamptonshire, a county purely agricultural, but possessing several towns in which the manufacture of boots, shoes, stays, clothing, and other articles is conducted on a large scale, thereby occasioning an increased demand for labour of a comparatively cheap description, and the competition being rendered keener by the establishment of ironworks in various parts of the county, the wages of the agricultural labourers have shown a marked rise during the last few years. Take the case of a Northamptonshire shepherd. His weekly wages are 15*s.*; in addition to this he receives during the course of the year 20 stones of bacon, costing 7*s.* per stone, and 12 bushels of potatoes at 2*s.*, which, with rent free cottage and garden, sticks, beer, &c., bring his real wages up to something like 20*s.* per week. The law of supply and demand operates in the country as in the town. Farmers, as a class, are not more mercenary than manufacturers, in some respects they are more kind to those employed by them; but it is absurd to ask them to give, from pure philanthropic motives, wages higher than the current rate. In Northamptonshire, where the manufacturing towns tend to

absorb the surplus agricultural labour, wages are steadily rising; in Lancashire, Yorkshire, and other northern counties, the tendency is even more apparent; but in Wiltshire and Dorsetshire, where opposite conditions exist, wages have remained stationary. The movement on the part of the agricultural labourers in favour of higher wages, a movement which has naturally attracted considerable attention, commenced in Warwickshire, where the same conditions exist as in Northamptonshire; but although the principle of Trades Unionism is rapidly gaining ground among the agricultural labouring classes, it does not appear to have practically affected the rate of wages, except in a few isolated cases. Where a demand for increased wages has been successfully enforced the employers have retaliated by withdrawing some of the perquisites to which the men had been accustomed, so that practically the higher rate of wages has brought no new advantages to the men. It is stated that the number of labourers employed in agricultural operations is steadily declining, partly from the increasing use of machinery, partly from emigration, and partly from the demand for labour in the manufacturing districts. With this diminution of the ordinary labour supply is associated an increased demand for skilled labour in connection with the use of improved agricultural machinery, and in some instances it has been found necessary to bring mechanics from the manufacturing districts to superintend the working of the various machines employed in land cultivation. In fact, the whole system of agricultural labour appears to be in a kind of transition state, not unlike that experienced in the manufacturing districts during the period when manual labour was being replaced by machinery, but the agricultural labourer possesses one advantage unknown to the operatives and artisans during that critical epoch—he can take his labour to fresh and more profitable fields. The stockinger who found the hand-loom unable to compete with that worked by steam, frequently discovered the avenues to other employments closed to him, and allowed himself to sink into the gulf of pauperism. With the agricultural labourer it is different. The United States are ready to give him a welcome, or if he prefers to remain under the protection of the British Flag, there are Australia and Canada open to him. The agricultural labourers perfectly understand this, and sometimes show a better knowledge of the principles of Political Economy than is possessed by their artisan brethren. "If our labour is too cheap in one place," say they, "let us take it where it is dearer." But to do this they must be prepared to sacrifice the numerous perquisites which go to supplement their wages, and thus they naturally hesitate. They have something to lose as well as to gain. It must not, however, be supposed that the farmers are indifferent to all this; to them a diminution of the labour supply may prove more than an inconvenience, it may signify loss, and even bankruptcy, for the seasons wait for no man, and if there be none to sow the seed or gather the harvest, the barns must remain empty, to the

loss both of the farmer and the nation. The more clear-sighted of the employers begin to perceive that if they are to retain the requisite amount of labour on their land, they must counteract the inducements to emigrate by inducements to remain. The most effective means of attaining this end is to enable the labourer to become a participator in the profits of the farm, by means of a modification of the Industrial Partnership principle. Recently, Mr. Brand, addressing the labourers on his estate at Glynde, said that he believed there would be no satisfactory settlement of the wages question until the labourer received, in some shape or other, a share, however small, of the profits of the business in which he is engaged. "I refer," said Mr. Brand, "not only to those employed upon farms, but those who are engaged in mining, in manufactories, and in trades of all kinds. But you will say, how is the labourer to derive any share of the profits of farming, because he has no capital? But capital is nothing more nor less than labour husbanded, and if you could save money, however small the amount, and could invest it in carrying on a farm, I think according to the sum so invested you would be entitled to a share in the profits of that farm. I will give you a practical illustration of what I mean. Some of you I dare say, are fortunate enough to have a few pounds in the savings bank, and I believe the limit of interest paid on the investments is 2½ per cent. Now, I will make a proposition to you. If you have got 5*l*., we will say, in the savings bank, and you would like to lend it to my farming business, I will engage to give you, as the savings bank does, 2½ per cent for the money; and I will do more than that. I will—supposing the profits of the farm amount to 2½ per cent. for the money I have invested—give you precisely the same interest upon the capital you lend me. That is to say, supposing I get 10 per cent. as profit on the capital I have invested, you shall have 10 per cent. on your 5*l*., instead of 2½. So you see, you will be in this position, that you will never get less than the 2½ per cent. you receive now, and if the farm yields more you will have the benefit of it. I am quite sure of this, that we shall never come to a satisfactory settlement of the relation between employer and employed until the latter, according to the amount of capital and labour he has invested, has an interest in the good conduct of the concern. My sole object is to give you a personal pecuniary interest in the conduct of the farm, and to endeavour to raise you a little above the position you now occupy as labourers." Mr. Brand's opinions are merely a reflex of those shared by Mr. John Stuart Mill and other leading political economists, who hold that by making the labourer a participator in the profits of his employer, the inducement to strike for higher wages would be removed.

But is the increasing rate of wages likely to prove permanent? and if so, how is it likely to affect our industrial supremacy in foreign markets? These are questions which time alone can answer, but there exists a widely spread impression that our present season of industrial prosperity may be followed by one

of adversity, when wages will fall more rapidly than they have risen. Such a contingency is by no means improbable, but its evil results would become considerably diminished were a taste for economy and thrift to accompany the increase of wages. Unfortunately, such is not generally the case, and should a period of trade depression set in the sufferings of the labouring classes would become aggravated by the very prosperity on which they are now congratulating themselves. The influence of the increased rate of wages on the cost of production would in ordinary seasons have tended to give the continental manufacturers an advantage over those of this country, but a similar demand for labour is being experienced not merely on the continent, but in the United States also. The increased demand, and consequently enhanced price, for coal here has led to our importing that article from France and Belgium, but not to the extent desired in consequence of the growing deficiency of labour in those countries especially in France. There is no doubt, however, that the cost of production may be pushed too far, and should the labouring classes decline to remain moderate in their demands and insist on further advances in the rates of wages, the evils predicted by Mr. W. R. Greg will speedily arrive, and the men find they have sacrificed the substance in their anxiety to secure the shadow.

JOHN PLUMMER.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, METROPOLITAN CHARITIES, LEGISLATION, STATISTICS, AND CHRONICLE OF 1871-2.

ARCHITECTURE AND PUBLIC IMPROVEMENTS.

1. General Progress.—Art and Public Monuments.

Workmen's strikes, exceptional prices of materials, and political and social contentions, have combined to retard the completion of some of our national as well as private buildings, and to defer the commencement of more; and less tangible progress is consequently apparent than might have been anticipated at the beginning of the year. Yet many important works have been completed, or carried far towards completion, and unmistakable progress has been made in many directions. The signs of progress—the outward and visible evidences of national prosperity, of wealth if not of welfare—abound, indeed, on every hand. Throughout the country, in rustic villages and outlying hamlets, as well as in busy commercial and manufacturing centres, new churches are being built or old ones restored, schools, asylums, hospitals, municipal buildings, warehouses, offices, hotels, mansions, and endless lines of mushroom 'terraces' and villas are rising; extensive sanitary operations are being pushed forward, and parks and other open spaces laid out: and the works announced as contracted for or contemplated, are so numerous as to remove all fear of any marked falling off in the coming years.

Building operations become indeed almost bewildering when we look at what has been done in the metropolis alone within a very brief period, and consider that they are still proceeding without break of continuity or diminution of speed. We talk carelessly of the amazing growth of London, but how few realize what is involved in the expression! "During the past ten years" says Colonel Henderson, in his last annual report on the Metropolitan Police, "there were built in the Metropolitan Police district 149,905 houses." An unpretentious statement, but it means that in those ten years there were *added* to London more than twice as many houses as there are in Liverpool, more than six times as many as there are in Dublin or Bristol; more houses by far than there are people in such capitals as Dresden or Stockholm. To illustrate the increase in another way, we are told that "the additional length of streets placed in charge of the police in the same period was 635 miles, equal to the distance from London to Inverness and 40 miles beyond," and these streets, be it remembered, were more or less closely lined with new houses!

But with all this building, we fear few would be found bold enough to contend that there has been proportionate progress in architecture as an art. Still, despite too palpable mistakes and too evident shortcomings, ministerial and legislative opposition and ignorance, perverse decisions, and harsh and inconsiderate criticism, we believe, looking back over the last fifteen or twenty years, that architecture is making real, if not very rapid, progress; that construction is better understood, and that sounder principles are gaining ground.

Architecture, however, will not take its true position till it has emancipated itself from the trammels of archæology, which is still so far from being the case that it has scarcely even evinced a desire to be free; whilst those who assume to be the leaders of public taste in the matter continue, for the most part, to speak and write as though successful reproduction were the highest excellence. Archæology—the scientific knowledge of the past—is of primary consequence to the architect, but along with it he should possess an equally intimate acquaintance with the present, its physical discoveries, acquired knowledge, modes of thought, and special requirements. The architecture of a country, equally with its science, art, and literature, ought to represent the progressive character of the age and people. To go back for centuries for models is little less a mark of feebleness in the one than in the other. The past is useful for study and guidance; mischievous when made the object of direct imitation. Imitation, in truth, belongs to the pupil stage of art. Revivalism is too often the effort of conscious incapacity, or unconscious imbecility. The master in any art is one who has freed himself from stereotyped technical modes of thought and practice, and rejects a servile allegiance to any past school, however admirable in itself and however well adapted to the age and circumstances in which it flourished.

The marvel is that architects and their employers do not see this. During the past century we have had a succession of revivals in architecture. Fashion gave to each a passing celebrity; but with what scornful neglect are the leading examples of each now regarded! Who now, for example, vouchsafes a thought on the "true Palladian" buildings that were the admiration of our grandfathers? What is more utterly vapid than the "correct Greek" of forty or fifty years ago? What considered more puerile than the Gothic of a quarter of a century back? Or, to come as near to the present day as we can with safety, what can surpass the cold indifference with which every one now regards the churches, in which, a dozen years since, the "foreign element and Catholic symbolism" were supposed to be perfectly embodied, and which enraptured ecclesiologists knelt before and wept over in pious adoration, and which now a leading Review irreverently designates as "baby houses"! And the contempt is in a great measure deserved. They are imitations, and, as such, belong to a very low step in the scale of intellect. The closest reproduction of a Greek temple or a thirteenth century church

now possible, would really present no nearer approximation to the spirit of the original than a Birmingham gilt toy to a Cellini jewel.

Our hope for architecture is that the intense unreality of the system of servile copying under which we have so long suffered is beginning to be recognised. The principle for which year after year we have been contending—that a building should be designed with reference primarily to its purpose, place, and time, and that, as regards style, it is the idea which influenced the old architects that has to be considered, and not their manner which is to be copied—is, at any rate, coming to be very generally admitted, if as yet it has not produced any visible results in the works erected or those in progress. We are not, it will be seen, advocating a *new style*. We desire to see original work, believing that all true art is original in character. But even originality will not be aimed after by the genuine artist. It will be reached, however, when the architect of true genius and sufficient resolution shall design and build with a single eye to the purpose of the structure on which he is engaged; work as the painter or the poet works: with thorough knowledge of what his predecessors have done, but, in the particular task he has in hand, never for a moment considering *how* any one of them would have done it had the task been his, much less striving to copy the form and manner in which some among them had already given expression to a similar idea.

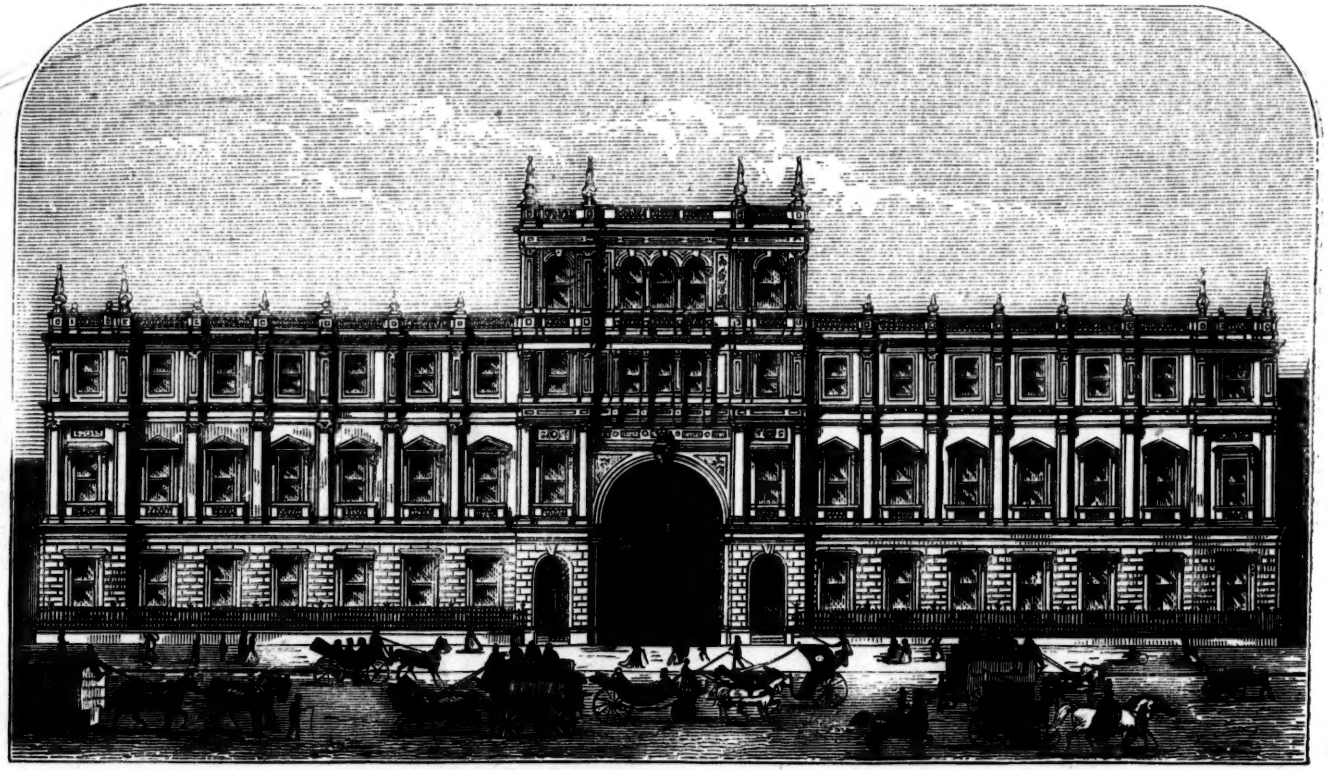
Far from reassuring, however, from this point of view, is the most important national building now in hand. Mr. Street has exhibited his revised designs for the new Courts of Law, and assuredly they are nothing if not mediæval. If thirteenth or fourteenth century precedent could not be cited in their favour no one would probably claim for them that they were suitable or beautiful, though some who think irregularity is picturesqueness might pronounce them picturesque. The element of grandeur seems to have been persistently struggled against and finally cast out. Mass and area were against the architect, but he has prevailed. The chief front will be all over "pretty bits," but disconnected, meaningless, void of any approach to combination, unity, or dignity. We may assume that, except in minor details, the design is now finally settled. The working drawings have been some time completed. The workmen are busily engaged on the foundations. There remains, therefore, nothing but to wait in patience, and hope the best. It may be that the building will belie the sinister promise of the drawings. We are at least certain from Mr. Street's learning, his skill as an architect, and his artistic taste, that, if we do not have an original or a noble building, one that we might hope would mark an epoch in the history of English architecture, we shall at least have a specimen of modern imitative Gothic that will rank among the most characteristic works of its class.

The vast size of the building is understood as you stand on the now vacant site. The principal frontage facing the Strand will

be nearly 500 feet long; and the building will be nearly as deep as it is long (484 feet by 470). But this space is believed to be inadequate to the requirement of the courts. Mr. Street proposes to "bring the whole mass of the New Courts of Justice slightly farther to the south." This, however, would give no additional space, and would be anything but an improvement to the Strand. He also proposes "to remove St. Clement's Church from its present site, and to build in its stead a new church on the extreme western portion of the Courts of Justice site," and in a style which shall harmonize with the new courts. The official announcement is, that "the time necessary for the completion of the building will be between six and seven years;" but such announcements are commonly made when in a sanguine mood, and bench and bar are little likely to find themselves installed in their new courts at Hilary Term, 1879.

With the new Colonial Office considerable progress has been made; and the structure, as a whole—Home, Foreign, India, and Colonial Offices—is assuming definiteness and character. The principal front of the Colonial Office stretches from Whitehall Place to Charles Street. At present the houses in Parliament Street prevent this front from being seen, but they are to be removed when the building is completed. A vote of 100,000*l.* was taken last session for the Colonial Office, and the works are being carried forward as rapidly as their character permits. Their completion is assigned to the spring of 1874.

Two of our national buildings are so nearly approaching completion that we have selected them for engraving as the representative works of the year. New Burlington House is the structure erected by the Government for the learned societies of the metropolis on the site of the wing-buildings, colonnades, and screen of Burlington House, lying between the old house and Piccadilly. Burlington House, it will be remembered, was built, or rather remodelled, and the colonnades added, by the noted architect, Earl of Burlington, about 1720. It was purchased by the Government a few years back with a view to the erection of a National Gallery on the site; but, after several conflicting decisions, it was finally appropriated, in the ædileship of Lord John Manners, in the way then explained ('Companion' for 1867); Burlington House, with sufficient garden space in the rear for schools and galleries, to the Royal Academy; the grounds extending northward to Burlington Gardens, to the London University; the space, stretching south of old Burlington House to Piccadilly, to the learned societies. The London University, as erected from the designs of Sir James Pennethorne, was described and engraved in the 'Companion' for 1870. The exhibition galleries of the Royal Academy, erected from the designs of Mr. Sidney Smirke, R.A., have also been duly noticed; but the Royal Academy will not come into full possession of old Burlington House till the Royal Society removes to the new building. Old Burlington House will be heightened by the addition of an upper storey, and be otherwise brought into harmony with the new structure.



Burlington House: Piccadilly Front.

BRITISH
12 DE 72
MUSEUM

As will be seen by the engraving, New Burlington House is in style classic Italian, of an unusually ornate type. The carving is abundant, well designed, and much above the average in execution. The architects are Messrs. Banks and Barry. The engraving represents the principal or Piccadilly front, which, if it does not display much originality of conception—and the selection of a classic Italian model almost of necessity precluded originality—is unquestionably an elegant and effective piece of street architecture. As will be observed, the chief feature of this front is the central portion, to which importance is given by bolder columniation and richer ornament, by its being carried a storey higher than the rest of the building, and by having the grand entrance archway of unusual height. This archway opens into a spacious quadrangle, along the sides of which the wings of the new building extend to a depth of 230 feet from Piccadilly, the end of the quadrangle being formed by old Burlington House.

Though in appearance a single building, New Burlington House comprises in effect a series of distinct houses of different sizes, each Society having a separate house, proportioned in size to its relative age, rank, or social standing: that of the Royal Society being the largest, that of the Chemical Society the smallest. The principal rooms of the several societies are arranged in two floors, the lower being mostly appropriated to the great rooms for the meetings of members, council chambers, and the like, whilst the upper floor contains the libraries, museums, &c., the chief exceptions being the Royal Society, which has on the first floor, a magnificent suite of reception rooms for the President's soirées, and the Geological Society, which has its library as well as meeting-room on the ground floor, whilst the first floor is devoted to the museum.

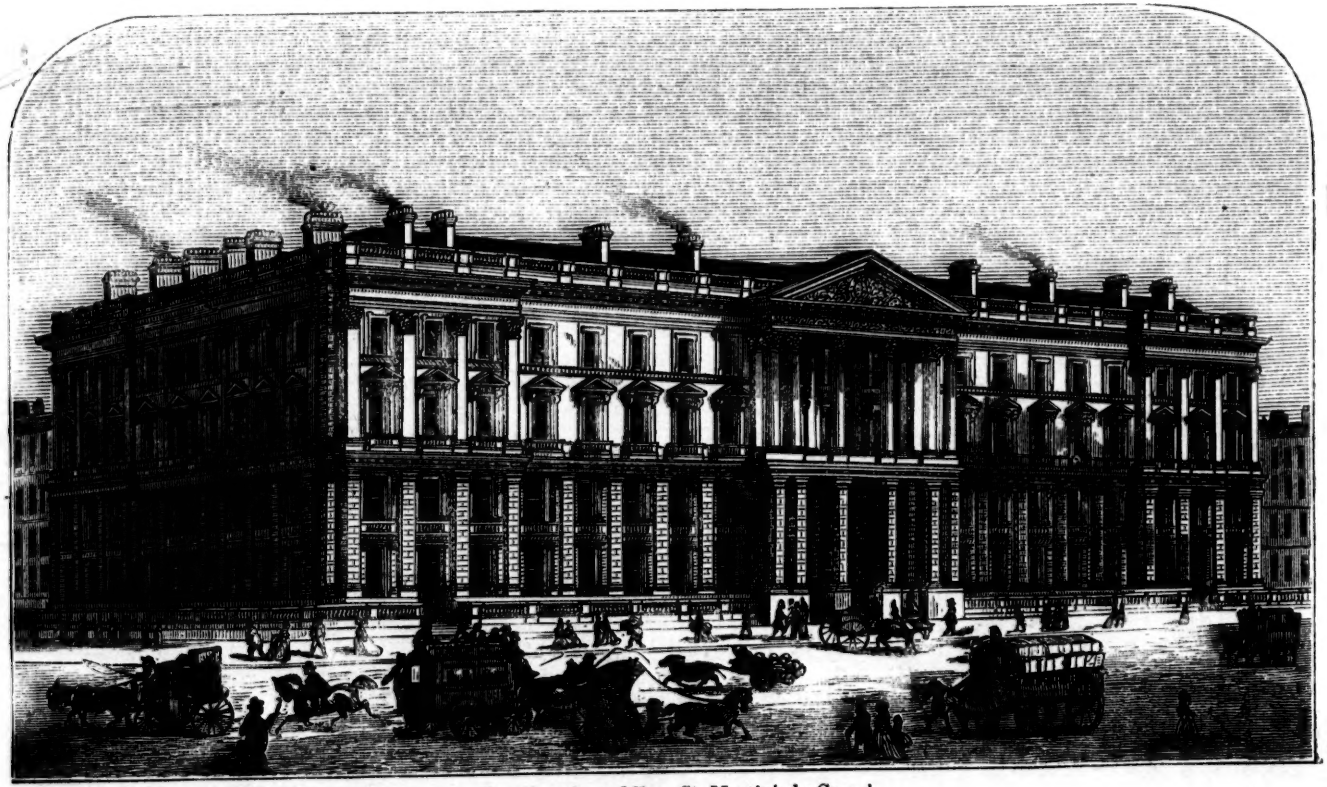
The several parts of the building are thus apportioned:—of the Piccadilly front, the western end is given to the Linnæan Society, the corresponding eastern portion to the Geological Society; while rooms immediately on the left of the great archway are set apart for a post-office, porter's lodge, &c.; others on the immediate right being appropriated to the Chemical Society. Passing through the entrance archway, the whole of the fine range of buildings on the right forming the eastern wing is devoted to the Royal Society, while the western wing is divided between the Royal Astronomical Society and the Society of Antiquaries, the Antiquaries having the further and by far the larger half. The Societies are promised possession of their respective houses in the spring of 1873.

The New Post Office, now approaching completion, and which would have been much farther advanced but for the builders' strike, is an edifice of a very different type to that just noticed, being as bare of ornament as that is lavish, and the style what, for the want of a more appropriate name, may be termed the Ayrton. Its general character will be seen from the engraving; but in judging of it, it is necessary in fairness to the architect to bear in mind that the Chief Commissioner of Works, under whose

directions it was erected, expressly stated that "in the design and construction of the building he had not allowed ideas of fancy or of taste to be made paramount to the demands of public utility," but "had sought to subordinate architecture to convenience." Now it is undoubtedly the right principle that "ideas of taste and fancy"—whatever the phrase may mean—ought not in any public building to supersede the "demands of public utility," and least of all in a building which is strictly utilitarian in purpose. But the adaptation of the building to its purpose having been first provided for as perfectly as possible, it is surely allowable and becoming that "ideas of taste and fancy" should be exercised in furnishing the building with an appropriate and beautiful exterior—one befitting its magnitude and importance, the central and conspicuous position it is to occupy, and not unworthy of the nation that has erected it.

The new Post Office is nearly equal in extent to the older General Post Office, to which it is to be an adjunct. The principal front, towards St. Martin's-le-Grand, like the corresponding front in Bath Street, will be nearly 300 feet long; the Newgate Street and Angel Street ends being nearly 150 feet long. The building is of Portland stone on a basement of granite; four storeys high, the two lower being rusticated, with engaged shafts, of the Tuscan order; the two upper storeys Roman Corinthian, an attic with balustrade forming the crowning ornament. The chief feature of the principal front is a poor-looking, cramped, central prostyle entrance portico of two storeys, corresponding in character with the rest of the façade, but supporting a pediment, in the tympanum of which are carved the Royal arms. The whole design, it will be seen, is of the most commonplace character, and there is nothing in the way in which it has been carried out to raise it above mediocrity. Its mass and magnitude, however, give it a commanding aspect, and the fenestration preserves it from the blank dulness of a mediocre modern Greek or Roman temple. The interior has, on the ground floor, a noble room appropriated to the telegraph and money order offices, about 80 feet long, 50 wide, and 34 high; and the whole, according to Mr. Ayrton, is at once a model of convenient arrangement, and "a remarkable illustration of the advantages to be derived from the study of economy, combined with utility, in the erection of a public building." The new Post Office was designed by Mr. J. Williams, of the Board of Works, who has for some years past designed the Post Offices erected in various provincial towns, and who has now on hand others of varying importance at Kensington, Colchester, Newcastle-upon-Tyne, and elsewhere.

Respecting the National Gallery, we know little more than that a vote of 37,250*l.* was taken in the last session, "for the enlargement of the National Gallery;" that a previous vote had been taken for the purchase of the ground; that the site has been cleared; and that the first stone has been laid of the new buildings, which will be erected from the designs and under the superintendence of Mr. E. M. Barry, R.A. But of the



The New Post Office, St. Martin's-le-Grand.

BRITISH
12 DE 72
MUSEUM

character of the new buildings we only know that Mr. Ayrton informed the House of Commons that "they had been designed in such a manner as that, whilst they might stand alone, they would also fit in well with any structure that might be raised around them," and that, "in the meantime, they would blend harmoniously with the existing National Gallery." It is clear, therefore, that Mr. Barry's elaborate premiated design for a new National Gallery has been definitely laid aside, for nothing could possibly blend less harmoniously with the existing National Gallery than any portion of that design. Whilst waiting, however, for the new building or some authentic information respecting it, it is some satisfaction to have the further assurance that, not only will its architectural character be of so pliant a nature, but that it will be of sufficient capacity to allow of the best pictures being brought from South Kensington—including, we may hope, the Cartoons of Raffaelle—and to accommodate any presents as well as purchases that may be made. Moreover, it is to be fireproof, "and, in addition, every precaution has been taken with regard to the existing building."

The new Science Schools, South Kensington, described by us last year, have been completed, and, on the whole, gain on further acquaintance. As the brick and terra-cotta tone down under the influence of our not very kindly atmosphere, they harmonize better; and though exception may fairly be taken to some of the decorative details, the general effect is pleasing and full of promise for the further use of terra-cotta as a building material. The original design, as will be remembered, was made by the late Captain Fowke, but it was greatly modified by General Scott, under whose direction the building was erected. The terra-cotta ornamentation was designed and modelled by the late Mr. Godfrey Sykes, the most successful of the South Kensington art students. The building is intended to accommodate the School of Science and the School of Naval Architecture.

Although a vote was taken for 29,900*l.* for the Natural History Museum, which is to be erected on the site of the Exhibition building of 1862; no visible progress has yet been made in its construction. The estimate for the total cost of the museum is stated to be 350,100*l.* It is to be erected under the superintendence of Mr. Waterhouse.

Sir Richard Wallace's magnificent collection of pictures will have drawn most of our readers to the Bethnal Green Museum, and it will hardly be necessary, therefore, to describe the building already so well-known. It may be well, however, to note that the nucleus of the structure was the notorious iron and glass fabric known as the Brompton Boilers, which, when past service in their original position, were, out of some blundering notions of economy, transported here. They have been encased in a frame of sombre red brick, and decorated with a frieze of South Kensington manufacture, whilst in front is placed Minton's great majolica St. George Fountain, erected first in the Exhibition of

1862, and afterwards in the gardens of the Horticultural Society at South Kensington. The exterior of the new museum, though not very attractive, is certainly superior to the Brompton structure; the interior recalls forcibly that too familiar form. The glorious collections of pictures, sèvres, bronzes, and other decorative works, divert the attention from the building in which they are placed, but its unsuitableness grows on you as you stay in it or revisit it. Certainly such pictures deserved a better housing. Works which you saw with intense delight when shown at Manchester, or the Royal Academy, or even at Christy's auction-room, look dulled and dwarfed in this great ill-lighted gallery. But the building was not constructed, we are told, for pictures and sculpture, but for "food and animal product collections," and these may perhaps be seen to greater advantage in it. The "east-enders" have, however, shown such hearty enjoyment and appreciation of good pictures, that we trust means may somehow be found for providing them with a succession of similar exhibitions.

The Prince Consort Memorial, Hyde Park, was virtually completed when the Queen and her children made their formal visit to it, July 1st, 1872. The Memorial has been so long partially uncovered, and representations of it in every form have been so abundant, that it would be idle to add anything to the description given in previous years. For a full, clear, and authentic account of the structure, we refer the reader to the architect's own description of his design, printed in Mr. Murray's convenient 'Handbook of the Prince Consort Memorial,' which also contains ample particulars of the construction, materials, sculpture, &c. Sir Gilbert Scott's "idea" of the Memorial may, he says, "be described as a colossal statue of the Prince, placed beneath a vast and magnificent shrine or tabernacle, and surrounded by works of sculpture illustrating those arts and sciences which he fostered, and the great undertakings which he originated." This idea of a shrine or tabernacle, now the work is completed and surrounded by all its sculptural accessories, seems to us, as it did when only partially finished and standing alone, to have been too thoroughly carried out; and consequently the Memorial proper has more the character of a magnified reliquary of jewelled goldsmith's work, than of an architectural structure of solid stone. But of the magnificence of the shrine there can be no question; and though not faultless, its form is good and the general effect very striking. The doubtful parts are the over massiveness of the tabernacle, which *looks* too heavy for the clustered columns that support it; the lavish use of gold, coloured stones, mosaic, glass, and gems in a stone structure, and the position and material of some of the groups, statues, and rilievi. The architect has satisfactorily shown that the stability of the structure is sufficiently provided for, but the appearance of the supporting columns being overweighted remains, and the apparent weakness is rather increased by the four statues (Astronomy, Chemistry, Geology, and Geometry) which project from the

columns in a very awkward way. It was further unfortunate in this respect, that the groups at the angles (Agriculture, Manufacture, Commerce, and Engineering) were not of bronze rather than marble, as the dark metal at the angles would have contributed to the mass and solidity of the base, whereas the white marble rather breaks it up and weakens it. The carrying up of the stairs so close to the podium with its very striking rilievi was certainly a mistake, and we cannot but think the architect would do well to adopt the suggestion of Mr. Fergusson, and "remove the upper flight of steps, replacing them with a boldly-designed granite sub-basement." This, as he very truly observes, "following the lines of the monument but projecting beyond it all round, would give height and dignity to the whole, and raise the sculptures sufficiently to be out of danger, and to allow of their being seen at a pleasing angle. The monument would then stand in a courtyard the angles of which would be marked by the four great groups representing the four quarters of the globe, and thus, besides the additional height, would have sufficient room to stand in, which at present it certainly does not possess." The large lower groups are very effective in the composition, and the whole as seen from a little distance has a very grandiose appearance. But it occurs at once that it suffers greatly as a composition from the absence of the central figure: so strongly felt indeed is the void, that one cannot but wish that a cast of Mr. Foley's model of the Prince had been allowed to remain on the pedestal till the statue itself could take its place—which will not be for at least another year. As it stands, with all its faults, the Prince Consort Memorial is the most splendid work of the kind yet produced, and whilst it has fairly won for its architect the knightly dignity which the Queen has conferred on him in testimony of her satisfaction, it reflects the greatest credit on the artists and art workmen who have assisted him. The execution of the several parts, the diligence and skill exercised in the selection of the materials, and the minute care and finish bestowed on every portion, whether prominent or subordinate, deserve ungrudging recognition and praise.

The Duke of Wellington died nine years before the Prince Consort, but the much humbler monument which the nation decided to erect in St. Paul's Cathedral in honour of their Great Duke remains still an inchoate fragment. Now, however, we are told that in two more years it will be finished and "be a beautiful specimen of art."

No statues or memorials of any consequence have been erected in the Metropolis during the past year, and fewer perhaps than usual in the provinces. At Leicester a marble statue has been erected of Robert Hall, the most eloquent of Baptist ministers. It is from the chisel of Mr. J. B. Philip, who executed the rilievi of the Architects and Sculptors on the podium of the Prince Consort Memorial, and is well spoken of. Robert Hall has been dead for over 40 years, and it is nearly half a century since he preached at Leicester, his statue therefore is a memorial

of service long past, but still honored in the memory of the townsmen. The people of Barrow-in-Furness have erected a bronze statute of their benefactor, Mr. James Ramsden, who still lives and flourishes among them as mayor, railway chief, and director of the iron-works, and who has just presented the town with new baths and washhouses.

At Helmsley a memorial of the late Lord Feversham has been erected in the shape of a cross by Sir G. G. Scott, with a marble statue of the deceased nobleman by Mr. Noble. A memorial of a somewhat different kind has been erected at Newcastle-upon-Tyne, in commemoration of the late Mr. Nicholas Wood. Here the memorial assumes the form of a large and really handsome Gothic building, designed by Mr. Dunn, for the use of the professors and students of the North of England Institute of Mining Engineers; its memorial character being specially indicated by a marble statue of Mr. Wood, which was unveiled at the inauguration of the Wood Memorial Hall.

2.—Public and Sanitary Works.

By the opening of Queen Victoria Street from Blackfriars to the Mansion House, the Northern Embankment of the Thames has been completed as a thoroughfare. And a very noble one it is. But now the difficulty of the appropriation of the new ground obtained by the Embankment is coming to be serious, mainly, it would seem, owing to the tenacity with which the Commissioners of Woods and Forests adhere to their peculiar reading of regal and public rights. The decision of the House of Commons to defer to another session the consideration of the very unsatisfactory proposals of the Government will give time for renewed deliberation and negotiation, and, we may hope, wiser resolves. Having made the Embankment at so vast a cost, it would be a miserable mistake to spoil its appearance for the sake of the saving of a trifling sum; and certainly a grievous wrong to deprive the public of the use of what has been created, so to speak, at the public expense. The 'grand approach from Charing Cross to the Embankment,' which it is proposed to carry across the site of Northumberland House, we must, however, confess is what, as John Bunyan used to say, we cannot away with. As the Embankment is laid out, such an approach cannot be readily formed without coming in contact with Northumberland House or grounds; but this house is so remarkable in itself, and so emphatically one of the historical and topographical landmarks of old London, that we might well be content to suffer considerable inconvenience rather than interfere with it. The exercise of a little engineering ingenuity would, however, we are disposed to think, discover some acceptable substitute for the 'grand approach' on which the Metropolitan Board of Works has apparently set its mind.

The Chelsea Embankment, the westward continuation of the Thames Embankment, has been pushed forward with a good deal of vigour, and is in parts beginning to put on a finished appear-

ance. It has already considerably changed the character of this part of the river; and the dwellers near the bank are complaining that they are being shut out from access to the river by the Embankment, on which the Board of Works will not build stairs or jetty. The embankment wall now constructing will be three-quarters of a mile long; behind it will be a roadway 70 feet wide, with ornamental grounds, formed on ground won from the river. In its general character the Chelsea Embankment will resemble the London one, but it will be constructed of a concrete of Portland cement faced with granite, instead of brick and granite, and will be finished in a somewhat plainer style. Along it will run a low-level sewer. It is expected to be completed by the close of 1873.

The scheme for carrying a broad street from the Holborn Viaduct to Moorgate Street in connection with the proposed Mid-London Railway has for the present failed—whether to be again brought forward next session remains to be seen. It would undoubtedly be an important metropolitan improvement, especially if treated as a portion of Mr. Haywood, the City Surveyor's, projected street to Whitechapel, described in the 'Companion,' for 1870. But the Engineer of the Metropolitan Board of Works has put forth a sort of rival scheme for a road from Oxford Street by way of Hart Street to Old Street, and from Tabernacle Square through Willow Walk to Shoreditch, to join Commercial Street, Whitechapel, and in connection with it to widen and extend Bethnal Green Road, making "a new street, 60 feet wide, from Gibraltar Walk to High Street, Shoreditch, on the north side of the Great Eastern Terminus, nearly opposite the proposed new street from Shoreditch to Old Street Road."

In connection with these improvements, the Board proposes to form a new street from the western extremity of Old Street across the Fleet Valley to Liquorpond Street, and to widen this street where required, and the several existing streets in the same line between Gray's Inn Lane and New Oxford Street. "This system of improvements will," Mr. Bazalgette states, "afford a direct communication between the western district of the metropolis, and the neighbourhoods of Kingsland, Haggerston, Hackney, Dalston, Hoxton, Bethnal Green, and Victoria Park, and would intercept from the City a large portion of traffic coming from these localities which contain nearly a quarter of a million inhabitants." This line, it will be seen, runs considerably north of that suggested by Mr. Haywood, which is supported by the Corporation of London, and adopted as a part of their scheme by the promoters of the Mid-London Railway.

The vast changes wrought in the neighbourhood of Shoreditch and Bethnal Green by the carrying forward to Broad Street of the Great Eastern Railway, and the construction of the line from the Thames Tunnel, render necessary some such improvement as that proposed by the Metropolitan Board; but once begun it is difficult to see where these works should stop: the whole district in fact stands in need of a thorough transformation, and not least in

its sanitary condition. The extension of the Great Eastern and North London lines has swept away the dwelling-places of thousands of the very poor, and those a little above them, but has left whole quarters of wretchedly built, dirty, ill-drained, and unwholesome houses, which, by the wholesale and sudden removal of so many of a like kind, have been increased in rental, and crowded with tenants from roof to cellar. The state of many of these houses is simply horrible. The model Industrial Dwellings have not as yet lessened the evil to any appreciable extent, but within their range they have done great good, and their influence is widening. Under the first trust of the Peabody Fund, in all five groups of dwellings have been erected, at Spitalfields, Islington, Shadwell, Westminster, and Chelsea, affording accommodation for about 600 families. Under the second trust the blocks called Peabody Square, have been built on the site of the old Magdalen Asylum, Blackfriars Road. They form two quadrangles, and provide accommodation for 384 families. Like the former buildings they were designed by Mr. H. A. Darbishire, but they look more cheerful, and have many little comforts which were wanting in the others. Another block of a somewhat different order is in course of erection by the trustees in East Lane, Bermondsey. The Brixton estate has been transferred to a private gentleman, who has built upon it over 200 workmen's dwellings of a superior class, and more are in progress. The Industrial Dwellings' Company had, at the close of 1871, erected 1,000 tenements, and had 262 in course of erection; their total expenditure having been about 170,000*l.* They have since completed another block in Ebury Square, and are about to commence two more in Whitechapel. Of their latest dwellings the rents range from 1*s.* 3*d.* to 2*s.* 3*d.* a room, water and gas included. Dwellings of a like kind have been provided by other bodies, but it will be enough to mention two as having some special features. The Brewers' Company have been making extensive improvements on their Clerkenwell estate, and among other good works have erected a block of three houses, providing for 24 families, each a comfortable sitting-room, bed-room, scullery, pantry, and various conveniences which are not found in ordinary houses. The buildings are four storeys high, fire-proof, and careful provision is made for the health as well as comfort of the tenants. The architect was Mr E. H. Martineau. The other is of a more ambitious character, a Workmen's City, as it was designated by the Earl of Shaftesbury, on laying the foundation-stone a few weeks ago. It is to occupy the Shaftesbury Park Estate, Wandsworth, and will comprise 1,200 dwellings. The dwellings are to be erected by the Artizans, Labourers, and General Dwellings' Company, and the tenants are to become the owners of their houses by the payment of a small additional rent for a certain number of years. In this, as in similar collections of workmen's dwellings, which the Company hopes to establish, there will be recreation grounds and halls for meetings, but no public-house will be permitted. The habits of self-help, thrift,

and self-control, which such schemes are calculated to encourage cannot but be beneficial, but the further segregation of classes into distinct localities is at least doubtful policy. The movement among the working classes for obtaining the ownership of houses by means of some kind of building society, has within the last few years made extraordinary strides, especially in the great manufacturing towns of the midland and northern counties: it has indeed been stated on seemingly good authority, that in Birmingham alone "13,000 houses are owned by working men. There are streets more than a mile long, in which absolutely every house belongs to the working classes, and which are the healthiest districts in the town." The statement seems scarcely credible, but if it is only an approximation to the truth, it is a happy thing for the town, and we may hope the good example will spread far and wide.

In connection with workmen's dwellings, it may be mentioned that the Marquis of Westminster has converted, or is about to convert, Ebury Square into an open garden, for the especial benefit of the working classes of the neighbourhood; and that Mr. W. J. Evelyn has appropriated some eight acres of the grounds of Saye's Court, Deptford, as a recreation ground for the people of that locality. Both gifts are experimental tests as to the way in which the classes for whom they are provided will make use of them. If Mr. Evelyn finds that the boon is rightly appreciated, he proposes to fit up the house itself—which it will be remembered was that in which Peter the Great resided whilst studying ship-building at Deptford Dockyard—and add the remainder of the grounds to his gift.

Throughout the country, parks and recreation grounds are being established for the public benefit. Sefton Park, Liverpool, described in a former volume, one of the finest and costliest yet completed, has been formally opened by Prince Arthur. Its entire cost is said to have exceeded 400,000*l*., but part will, it is expected, be returned to the corporation by the sale of sites outside the park for the erection of villas. The corporation of Leeds have bought the Roundhay Park estate, with some adjoining property, for 140,000*l*., and converted it into a noble park, of over 300 acres, which was opened by Prince Arthur in September last. The new park is about three miles from the town. Birmingham is about to have another new park of 54 acres, the present of Miss Rylands to her townsfellows. At Ashton-under-Lyne the Highfield estate is being laid out as a public park, at a cost of over 10,000*l*. The corporation of Blackpool have bought Raikes Park for 14,000*l*., and are transforming it into a public park, at a further outlay of 16,000*l*. The Warrington Town Council have purchased Colonel Patten's fine seat, Banks Hall, for 22,000*l*. The house they propose to make the town hall, and to lay out the grounds as a public park, the cost of the necessary alterations being about 30,000*l*. The corporation of Newcastle-upon-Tyne have it in contemplation, it is reported, to convert the locally famous Town

Moor into a public park, but in order to do so it will be requisite in the first place to purchase freemen's right at an estimated cost of 75,000*l*. Whilst however, as is natural, it is in these densely populated and prosperous manufacturing towns that the movement for obtaining open spaces for public use is most active, it must not be supposed that it is dormant elsewhere. The good old city of Lincoln has added to its many attractions a very prettily laid-out public park and arboretum of twelve or fourteen acres; and Rochester has secured the grounds around the famous castle ruins, and converted them into very pretty public gardens; and has, whilst securing freedom of access to the castle, taken measures to preserve the ruins as far as possible from further injury.

Respecting railways it will be enough to state that the extension during the year was, according to the traffic returns, about two hundred miles; the entire length being now over 14,000 miles, whilst the weekly receipts exceed a million sterling. Much of this increase in the receipts is due to the improvement in the goods traffic, the consequence of the prosperous condition of the commercial and manufacturing interests of the country, but much also to the enormous increase in the number of third-class passengers, consequent on the chief lines running third-class carriages with all their trains. Some of the railway chairmen and directors, at the half-yearly meetings have been taking great credit for the "concession," but complaining that the third-class carriages are now largely used by persons who could well afford to ride in first or second, and hinting that they may have to reconsider their decision. In truth, the provision of third-class carriages with all trains is only a tardy act of justice. It is for the passengers to choose, not for the railway directors to determine, by what class they shall travel. To make the concession complete, however, third-class passengers should be put on the same footing as first and second class passengers with regard to return tickets. If this were done, and cleaner and more comfortable carriages provided, railway shareholders would find their reward in a still more marked increase of passengers. As it is, the Midland, the North Western, the Great Northern, the North Eastern, and other great companies, have each carried a million more third-class passengers during the last six months than in any previous six months. The capacity of extension in railways seems illimitable.

3. Churches and Chapels.

Church builders have been at least as busy as in past years, erecting new churches, and restoring old ones. And as there has been no abatement in the progress, so has there been no alteration in the process. The great aim seemed to be to make the new churches look as much as possible like the old, and the old as much as possible like the new. The new churches are of course all Gothic, generally of late First or early Second Pointed character, and more or less French or German in the details.

Of the new churches completed during the year in and around

London, the most important is that erected on the site of the old parish church of Kensington, which was taken down in 1869. Kensington new church is a large and handsome cruciform structure, having accommodation on the floor for about 1,600 persons, including 370 children. It is built of Kentish rag, with Bath and Caen stone dressings, and consists of a nave of six bays with aisles; short transepts with double gables; chancel with aisles, and sacrarium or altar place; clerestory and vaulted wooden roof of very good form and finish. It is proposed to erect a tower and lofty stone spire at the N.E. angle, but at present only the lower stage of the tower has been built. The church is by Sir Gilbert G. Scott, R.A., and in his favourite style, late First Pointed, or according to his own nomenclature, Geometrical, of decidedly French character. Like all Sir G. G. Scott's recent churches, it is very carefully worked out in all its parts, and the details are beautifully finished, the whole being rather characterized by elegance than vigour.

St. Augustine, Kilburn, from the designs of Mr. J. L. Pearson is an effective First Pointed cruciform structure of red brick and Bath stone. It is intended for a congregation of about 1,400, but the transepts and tower remain to be built at a future day. St. John, Kilburn, an early Second Pointed brick church, designed by Messrs. Francis, for a congregation of about 1,000, consists of nave with aisles, deep chancel with aisles and apsidal termination, and has a turret at the south-west angle 100 feet high. St. Mary, Primrose Hill, designed by Mr. M. P. Manning, is also a First Pointed red brick cruciform building, and like St. Augustine's, only partially completed, but it is smaller and plainer in character. Trinity Church, Finchley Road, is to be a spacious late First Pointed church with a tall spire on the south-west, but tower and spire, as well as apsidal chancel, are left for erection in happier times; at present it looks very much like a trunk without limbs. The architect is Mr. J. S. Legg. St. Matthias, West Brompton, designed by Mr. J. H. Hakewell, is a solid looking, First Pointed red brick building, showing a good deal of blank wall space, with, at the south-west, a tall tower, crowned with a pyramidal roof spire. St. John the Baptist, Downham Road, Islington, is another brick and stone church, early Second Pointed in style, designed by Mr. W. Wigginton. It comprises nave and aisles, chancel with aisles, and semi-octagonal termination, and will accommodate over 700 persons. Over the chancel arch is a bell-cote. Proceeding further east, St. Stephen's, Goldsmith Row, Haggerston, is another brick church for a congregation of 600, designed by Mr. F. T. Dollman, but with little to call for special notice. St. Benet, Stepney, is a plain First Pointed, red brick church, erected on a piece of ground adjoining Bancroft's Hospital in the Mile End Road, from the designs of Mr. E. Christian. The church is noteworthy as the first of those erected under the provisions of the Union of Benefices Act. It is the successor of the destroyed church of St. Benet, Gracechurch (which stood at the corner of

Fenchurch Street), and has inherited with the name the bells, oak communion table, and plate of the old church. St. Mary, Loughton, is a pretty little First Pointed church, very suitable for the picturesque scenery amid which it is placed.

South of the Thames we may note a plain, well-built brick and stone early Second Pointed church, erected near the Commercial Docks, Plough Road, Rotherhithe, at the cost of Field Marshal Sir W. M. Gomm, from the designs of Mr. Butterfield; also a neat First Pointed building, All Saints, Rye Lane, Peckham. St. Saviour, Battersea, is a First Pointed building, French in character, designed by Mr. E. C. Robins, for a congregation of 700. All Souls, Grosvenor Park, Walworth, is a plain, unpretending structure, erected in a great measure at the expense of Mr. P. Walwin, of Loughborough Park. Christ Church, Chislehurst, is an early Second Pointed church, with accommodation for about 600 persons, erected from the designs of Messrs. Habershon and Pite. It is of Kentish rag, with Bath stone dressings; consists of nave and chancel with apsidal termination, and has a tower and tall spire at the west end. It stands on an elevated site, and forms a conspicuous object over a wide and picturesque district. St. Andrew, Surbiton, is of many coloured bricks and stone, and consists of nave and aisles, transepts, chancel, and baptistery; it is to have a tower at a future day. The windows are mostly filled with painted glass. The architect was Mr. Blomfield. A new church has been erected for the rising district of Kenley, near Caterham, Surrey, from the designs of Mr. J. Fowler, of Louth. Externally it is of Kentish rag, internally of brick, is early Second Pointed in style, and consists of nave with aisles, chancel, and tower and spire on the north-east. Several other churches have been consecrated in London and its suburbs, but these are sufficient as examples. None, as it seems to us, are of much mark or novelty.

Among country churches, two or three of Sir G. G. Scott's may be noted. St. Thomas, Parkgate Road, will eventually be a spacious and handsome building, but at present a part of the nave and the tower are left for lack of funds. St. Mary, Mirfield, Yorkshire, occupies the site of the old parish church. It is a large and costly structure, First Pointed in style, and comprises nave with aisles and south porch, chancel, vestries and a tower at the west end, which rises to a height of 140 feet to the top of the pinnacles. The church has much excellent carving, and the interior is adorned with coloured marbles, Derbyshire spar, &c., the decoration culminating in the chancel, in which is a rather elaborate reredos. Ryde Church, Isle of Wight, has been consecrated, but is very far from being finished. Tower and spire and south porch are not begun, and much internal decoration remains to be added. When completed it will be a good example of Scott's ecclesiastical manner.

All Saints, Darlaston, is a First Pointed red brick church, with Bromsgrove stone dressings, erected from the designs of Mr. G. E. Street, R.A., as a memorial of Mr. S. Mills, ironmaster of

Dudley. It comprises a nave and aisles, chancel, and bell turret at the west end, and has accommodation for over 500 persons. St. Frideswide Church, Oxford, by Mr. S. S. Teulon, has been straitened in extent and finish by deficiency of funds, but is not without interest. St. John the Baptist, Bathwick, Bath, is rather the extension and remodelling of a church already partially built than the erection of a new one. Its present form and appearance are due to Mr. Blomfield, whose hand is traceable everywhere. It is richly decorated, and the nave and chancel being of the same height, the division is marked by a rood screen which is surmounted by a large cross. St. Mark, Leicester, is a rather elaborate example of the peculiar phase of First Pointed work which Mr. E. Christian has made his own. It consists of a wide and lofty nave, with aisles, and an apsidal chancel half as long as the nave. At the west-end is a vestibule; on the south side a tower with stone spire rising to a height of 160 feet. St. John, March, in the Isle of Ely, is an elegant little Second Pointed edifice, comprising nave with aisles, chancel, and bell turret. It is built of Ancaster stone, with dressings of Bath stone, and has some very good carving by Mr. Sandon. The architect was Mr. J. H. Wyatt.

St. Bridget, Wavertree, Liverpool, has excited great local interest, and claims particular notice here on account of its bold departure from the received dogmas of church builders. It is neither Gothic in style, nor mediæval in pattern. The architect has in fact gone back to the period of the earliest Christian churches, the age of the first Roman Emperors who adopted the Christian faith, and taken as his type the ancient basilica, which as we know was the model adopted by the early Christians, when, indeed, they did not appropriate an existing basilica. The church of St. Bridget consists of a very wide nave, which is divided from narrow aisles by a series of 16 columns of polished red Kilkenny marble, a shallow narthex, choir, and apsidal chancel. The nave columns support a lofty clerestory, and deeply coffered flat roof. The windows of the clerestory are filled with figures of prophets and apostles on opposite sides. The windows of the west end and apse are also filled with painted glass. Spaces behind the altar, on the cupola ceiling of the apse, and spandrils of the chancel arch, are to be filled with paintings of the Nativity, Crucifixion, Ascension, and Judgment. The carvings and mouldings throughout are very carefully executed, and coloured marbles are freely employed. We have not seen the church, and shall, therefore, only say further that its general appearance is spoken of favourably, and that those who have worshipped in it consider it to be remarkably well fitted for the service of the English Church. It will confer a benefit upon ecclesiastical architecture if it shows that for its fanes the Church is not of necessity shut up within the confines of mediævalism.

With this basilica, which is an effort to produce a highly ornamental but essentially Protestant church, may be compared or contrasted the chapel of St. Paul's College, Stoney-Stratford,

which is or will be still more highly decorated, but is as distinctly mediæval and catholic in character. It is 114 feet long by 35 feet wide, and consists of an atrium extending across the western gable; the body of the church, or choir, for the members of the college; shallow transepts, and a deep sacrarium terminating apsidally. It is constructed of the local greenish sandstone, with red brick dressings, Bath stone and marble being sparingly employed in the capitals and corbels. The arched roof has ribs, tie-beams, and king-posts. The floor is laid with tiles in patterns. Oak stalls fill the choir, those for the warden and chaplains being canopied. The sacrarium is without windows, it being intended to cover the walls with fresco paintings of subjects from the life of St. Paul, which will be lighted by the lantern of the flèche over the sacrarium. Altogether the sacrarium when the decorations are completed will be unusually rich. The altar is to be of marble and alabaster, and on it will stand a wrought crucifix and candlesticks by M. A. Chartier, of Paris, the elaborate gas standards being by Messrs. Hart, Son, and Peard. The architects, Messrs. Goldie and Child, have carried out their designs in the most thorough manner, the cost being wholly defrayed by the Warden, the Rev. W. M. Hatch, Fellow of New College, Oxford. Very good engravings of the interiors of the two buildings are given in 'The Builder;' that of Wavertree Church, July 15, 1871; that of St. Paul's College Chapel, August 31, 1872.

Of the other new churches we give a list (compiled mainly from the 'Builder,' 'Building News,' and 'Architect,' and the illustrated and local newspapers) arranged as in former years under First Pointed (or Early English), and Second Pointed (or Decorated), though as the phase of Gothic just now in fashion is the transition from First to Second Pointed (the Geometrical of Mr. Sharpe's nomenclature),—and almost every church has windows and mouldings of both styles—many of these churches might with equal propriety be placed under either heading. When not otherwise stated, the church may be understood to consist of nave, with aisles, chancel, vestry, and tower and spire; unless it be a small church, when it will ordinarily have only nave and chancel, with a bell turret instead of a tower.

Among the churches First Pointed in style are:—*Luddington*, near Stratford-on-Avon, a village associated by tradition with Shakspere, but which since his time has been without a church. The new building is constructed of the local blue lias, with dressings of Corsham stone, and a lining of brick. The interior is richly decorated, and several of the windows are filled with painted glass; architect, Mr. J. Cotton, of Birmingham. St. Paul, *Sheerness;* built on the Well Marsh, it has been constructed without a regular foundation, upon inverted arches; a south aisle remains to be added; architect, Mr. R. Wheeler, of Tunbridge Wells. St. Matthew, *Duffryn*, Neath; a little Welsh mountain church, 62 feet by 25, with a chancel 27 feet long, designed by Mr. Norton, and erected of local stone with Bath stone dressings

at the cost of Mr. Howel Gwyn. St. Mary, *Hurst Hill*, Sedgley; nave and aisles only, the remainder left for a future day; 560 sittings; architect, Mr. Bidlake, of Wolverhampton. Christ Church, *Upper Armley;* nave and aisles, chancel, and tower at the west end, 117 feet high; 650 sittings; cost, with site, nearly 8,000*l.*; architects, Messrs. Adams and Kelly, of Leeds. St. Luke, *Beeston Hill*, Leeds, by the same architects; a light, roomy, and well-built church, with seats for 700 persons. St. James, *Ramsden;* on the site of the old parish church; architect, Mr. Blomfield. St. Paul, *North Acklam*, Middlesborough; of brick and stone; architect, Mr. R. J. Johnson, of Middlesborough. St. Andrew's Waterside Mission Church, *Gravesend*, is a little building erected from the designs of Mr. G. E. Street, R.A., as a memorial of Rear-Admiral Beaufort. Lady Franklin has placed in it three painted glass windows as a memorial of the petty officers, sailors, and marines, lost in Sir John Franklin's last Arctic Expedition. St. Pancras, *Rousdown*, Devonshire; a prettily-finished church for a congregation of 70, erected on the site of the old parish church from the designs of Messrs. George and Vaughan; all the windows are filled with painted glass. Holy Innocents, *Fallowfield*, near Manchester; large, lofty, and highly decorated; spire, 150 feet high, to be added; architects, Messrs. Price and Linklater. Christ Church, St. Helen's, *Swansea;* 600 sittings; erected at the cost of Mr. J. W. Clark; architect, Mr. T. Nicholson. St. James, *Thornton;* 600 sittings; several of the windows filled with painted glass; architects, Messrs. Healey, of Bradford. St. Peter, *Bury*, Lancashire; of stone, the interior being lined with brick; 500 seats; tower and spire to be added at a future day; architects, Messrs. Maycock and Bell, of Manchester. St. Saviour, *Mortomley*, near Sheffield; erected as a memorial of Mr. Parkin Jeffcock, who lost his life when leading an exploring party after the great explosion at the Oaks Colliery, December 13th, 1866. The church, a small but very elegant one, affording accommodation for 300 persons, was designed by Mr. J. Brookes. *Tyler's Hill*, near Chesham, Bucks; a graceful little church designed by Mr. M. Glover, and erected mainly at the expense of Lord Chesham. St. Anne, *Derby;* of red brick, with stone sparingly introduced in windows and arcades; 600 sittings, cost 3,200*l.*; architect, Mr. F. W. Hunt. *Birlingham*, on the site of the old parish church; a carefully designed and admirably finished village church, erected in accordance with the will of the Rev. R. E. Landor, the late rector, at a cost of about 6,000*l.*; architect, Mr. B. Ferrey. *Croxley Green*, Rickmansworth, Herts; the exterior of Bath stone, the interior of red brick; open timber roof; tower on north; 250 seats; architect, Mr. Norton.

Among churches, Second Pointed in style, the following have been consecrated:—St. John the Baptist, *Harlesden*, of flint and stone; deep apsidal chancel, the windows of which are filled with painted glass by O'Connor; 400 sittings; architect, Mr. Phipson. St. Chad, *Kirkly*, Lancashire, a large and handsome edifice erected from the designs of Mr. Paley, of Lancaster, at

the cost of Lord Sefton. St. Thomas, Moorside, *Oldham*, a richly decorated structure, comprising nave with aisles, chancel, with a chapel on the north, fitted for weekday and special services, organ chamber, vestry, baptistery and sponsors vestry; south porch and tower as yet unfinished; the east window, which is of five lights and very large, is filled with painted glass, and the sacrarium is rich in coloured marble mosaics and majolica. It was erected at the expense of Mr. Mellodew, of Moorside, from the designs of Mr. H. Cockbain, of Manchester. *Sherburn*, Durham, on the site of the old parish church; architect, Mr. Johnson, of Newcastle-upon-Tyne. *Gorton*, near Manchester; cruciform, with tower and spire 150 feet high; 800 sittings, cost £6,060; architects Messrs. G. and J. R. Shaw. St. Paul, King Richard's Road, *Leicester*; 850 seats; tower unfinished; architects, Messrs. Ordish and Traylen. *Darlaston*, parish church rebuilt, except tower and spire, as a memorial of the late vicar; cruciform; 1,300 sittings; architect, Mr. A. P. Brevitt, of Darlaston. St. Andrew, *Southport*; cruciform, with tower and spire on the north east; of brick and stone, with polished granite shafts to the piers of the nave arcade; 1,000 seats; architects, Messrs. Barry and Son, Liverpool. St. Margaret, *Beswick*, near Beverley; on site of old church; nave, chancel, tower and spire 75 feet high, and large porch; of local stone with dressings of Bath stone; interior a good deal decorated; 130 seats; erected at the cost of the late Lord Hotham. Christ Church, *Crowton*, Weaverham, near Northwich, Cheshire; an elegant and tastefully decorated church of brick and stone, designed by Mr. Pearson, for a congregation of 250. St. Peter, *Berkdale*, Lancashire; of Cefn stone, with Upholland perpoint in courses; 600 sittings; architects Messrs. Barry and Son, of Liverpool. Emmanuel, *Saltburn-by-the-Sea;* cruciform, but the plan only in part carried out, the south aisle, transept, and tower being left for completion when sufficient funds are obtained; present accommodation for 600 persons, ultimate 1,000. St. Mary, *Balderstone*, Rochdale; cruciform, with tower and spire at north-west angle, 150 feet high; large five-light traceried east window, four-light west window; large and elaborate rose window in north transept, all filled with painted glass; the interior rich with coloured marbles, polished granite, alabaster and mural decorations; architects, Messrs. M. and H. Taylor; the church, vicarage, and schools built at the cost of the Messrs. Radcliffe, of the Greenfield Mills. St. John, *Facit*, Rochdale, by the same architects; nave, aisles, and chancel; tower and spire left for completion at a future day; at present accommodating only 500 persons; cost 3,500*l*. St. Paul, North Road, *Darlington;* a handsome and conspicuously situated building, with a tower and spire at the south-west, 130 feet high, designed by Mr. C. Pritchett.

Church restoration proceeds with unabated vigour and thoroughness. Everywhere our old churches are modernized and transformed. Marvellous, indeed, is the skill with which our church restorers will strip an ancient church of its mask of

venerable dignity and reduce it to an aspect of common-place mediocrity. After visiting a restored mediæval church, however, one comes to look with something approaching respect on the recent counterfeit. Church builders have reason for their enthusiasm in restoration.

On our old parish churches, restorers have now nearly done their worst. We may leave them, therefore, and see what they are doing with our cathedrals. The "completion" of St. Paul's has been so much discussed that the briefest reference will be sufficient. The authorities have declared their resolution to carry out to the utmost of their ability the intentions of the architect. Wren avowed that he had studiously avoided the imitation of Gothic structures. "Throughout all my schemes for this colossal edifice," he wrote after its completion, "I have religiously endeavoured to follow the principles of the best Greek and Roman architecture, and if I glory it is in the singular mercy of God which has enabled me to begin and finish my great work so conformable to the ancient model." To "complete," as it is called, the interior of an edifice designed and constructed in such a spirit the committee have selected an enthusiastic mediævalist who has wrathfully denounced "Wren's abominations," and declared that he should like of all things to be empowered to "restore St. Paul's off the face of the earth," and whose idea of ecclesiastical decoration may be seen in the chapel of Worcester College, Oxford, and Waltham Abbey Church. The scheme for the costly decorations promises among other things representations of a great variety of saints with their mediæval symbols, and infinite finery of a *cinque-cento* type. What is to be, must be. Happily such a transformation as is threatened will take a long time and much money to carry out, and patience and funds are exhaustible commodities.

The chief event in connection with Westminster Abbey, is the completion of the restoration of the Chapter House. Here Sir Gilbert Scott has followed to the letter his promise that it should be in the strictest sense a conservative restoration. Not a stone of the old building has been moved that could be saved, and there has been no re-chiselling or meddling with the old carvings, or touching up of the old paintings. The new work is a faithful but not deceptive imitation of the old, and the architect has been careful to do too little rather than too much in the way of renovation. The groined roof is a very effective feature, and, except that the bands make too strong a contrast with the rest of the ground, has been completed with admirable taste. Remembering the dismal condition in which the building was, we cannot but express our delight with its present appearance, and our satisfaction as to the manner in which the works, both structural and ornamental, have been executed. The adjacent cloister is, we notice, undergoing considerable renovation.

Great progress has been made with the very extensive restorations of Exeter Cathedral, also under Sir Gilbert Scott. The Lady Chapel has been completed, and has met with very

general approval. The choir is now undergoing a thorough renovation. The massive columns of Purbeck marble are being made good throughout; the vaulted roof has been renewed, and not overlaid with what is mis-named decoration; for the plain old stalls new ones very elaborately carved will be substituted. The restoration of the nave is to follow that of the choir; and it is proposed to remove several houses which obstruct the view of the south side of the cathedral. Worcester Cathedral has long been in the hands of Sir Gilbert Scott and Mr. Perkins, and a great change has been made in the appearance of the building. Of late, attention has been chiefly centred on the choir which approaches completion, the most important unfinished portion being the new pavement, which is now being laid down. Here the work has been thorough: not only walls, columns, windows, and roof having been restored, but stalls, misereres, tombs, and Prince Arthur's shrine renovated. A new peal of twelve bells and an extra quarter bell have been placed in the tower as well as a large new clock. At Gloucester, the first section of the works has been completed, but the Lady Chapel is in a very bad state. The restoration of the west front of Wells Cathedral, is reported to be proceeding satisfactorily under the direction of Mr. B. Ferrey. The central compartment is completed, and the south-west tower is approaching completion. The north-west tower is not yet touched. The sculpture on the west front is of so remarkable a kind, and forms so important a landmark in the history of sculpture, and indeed of architecture, in England, that one hears of its restoration with fear and trembling. Mr. Ferrey is a good antiquary, and will treat such priceless relics with all respect; and it is some satisfaction to be told that he pays "an occasional visit" to the works—but what occurs in the intervals of these calls? Upon Chester Cathedral some 40,000*l.* has been expended, and perhaps nearly as much more will be required to complete the restoration in the way proposed. Chester Cathedral was built of a singularly friable stone and had been much neglected, and consequently was in a deplorable state when the works were commenced in 1869. Under Sir Gilbert Scott's direction the central tower has been carefully restored; the windows on the south of the choir have been renewed, the eastern end of the Lady Chapel has been rebuilt, and the nave has been renovated and covered with a new vaulted oak roof. At Rochester extensive works are in progress, and it is proposed to complete them by filling the east windows with painted glass. The construction of the new nave of Bristol Cathedral, under the direction of Mr. G. E. Street, R.A., proceeds somewhat tardily, mainly, it is said, from insufficiency of funds. What has been done, however, has been done in the most substantial manner, and the work may be none the worse for not being executed in haste. The interior of Durham Cathedral is, with the exception of the nave, which is partitioned off, undergoing a very complete restoration. It was with some dread that we heard the sound of chisel and scraper in the venerable

pile, but we are bound to say that the works, which we recently examined, are apparently being executed conscientiously as well as thoroughly. How easy it is, however, to carry the work of restoration to excess is shown in the exterior, and especially in the east end, of the cathedral. The restoration of the nave of St. David's Cathedral, by Sir G. G. Scott, is nearly completed.

The recent fire at Canterbury Cathedral, points to the dangers to which our grand old historic monuments are always liable. A plumber is sent to patch the leaden covering of a roof; a spark from his stove blown among the rubbish inside escapes notice, and in a few minutes a fire is kindled that sweeps swiftly along the dry rafters, and is beyond any ordinary means of quenching. Happily the city of Canterbury has an abundant supply of water laid on at high pressure, and a skilful and courageous man taking promptly the best measures, the fire was got under with only the loss of the roof of the eastern portion of the choir, some 80 feet by 50. Little injury was done to the stone work; and no harm, as would seem, of any kind that is not reparable: which is more than can be said of some late restorations. The disaster may be even beneficial in awakening the custodians of such buildings to a more lively sense of their responsibility and to the adoption of some better organisation for the security of the treasures entrusted to their keeping. York Cathedral is in the hands of Mr. Street. The works are extensive, but were, when we last saw them, being very carefully executed.

Almost as large as a cathedral, and little less interesting to the antiquary, St. Alban's Abbey Church claims a passing notice. The sinking of the great tower rendered reparation imperative, and that could hardly be undertaken without some effort being made at restoration. Sir Gilbert Scott has done the substantial work of ensuring the safety of the tower so thoroughly, that it may stand secure for centuries longer, but it has lost entirely the air of hoar antiquity for which it was but lately so remarkable. One of the most interesting results of the works has been the discovery of the famous shrine of St. Alban, or rather of the stone platform on which the real shrine, the gold and jewelled feretory stood. The fragments were found built up in the wall that was constructed (*temp.* Edward VI) at the east end of the church when the Lady Chapel was cut off, and converted into a grammar school. The shattered fragments have been pieced together with extraordinary pains and skill by Mr. Smith, and re-erected on the original site. Fragments of the shrine of St. Alban's fellow-martyr, the legendary Amphibolus, have also been found, and are being carefully arranged. The shrine of St. Alban is of Purbeck marble, and the carvings are in wonderful preservation; that of St. Amphibolus is of clunch, brilliantly coloured and gilt.

With the ecclesiastical edifices of other bodies we may be very brief. Many churches and chapels have been built, but, as far as we know, they are all of the old conventional types. By far the most remarkable building of the year in this class is the Roman Catholic church of Our Lady and St. Philip, Arundel, erected by

the Duke of Norfolk from the designs of Mesrs. Hansom and Son, on a commanding site, close by the old parish church and Arundel Castle. The building is almost cathedral-like in size and splendour. It is early Second Pointed in style, of a French type; cruciform; when completed, will have a tower and spire at the north-west angle, 270 feet high, and a sanctus bell spire, 140 feet high. The extreme length of the church is 200 feet, the width 33 feet; the transepts are 94 feet by 27; height, to ridge of nave groining, 72 feet. The spring of the groinings of nave, choir, and transept roofs is 50 feet from the floor. The rose window at the west end is 23 feet 6 inches in diameter; the seven-light windows of the transept are 37 feet by 18, the heads being filled with elaborate tracery. The spire and much of the ornamental work remains to be added, but the body of the building is completed. St. Francis of Assisi, Gorton Lane, Manchester, is an elaborate early Second Pointed building, designed by Mr. E. W. Pugin; of red brick and Bath stone, 184 feet long, 72 wide, and 98 feet high. The interior is very splendid. The cathedral of St. Mary, Newcastle-upon-Tyne, the work of the elder Pugin, has been completed by the addition of a rich Second Pointed tower, 105 feet high, and stone spire, with bands or garlands, modelled after that of Chichester Cathedral; the height to the top of the vane being 222 feet, or several feet higher than the famous steeple of St. Nicholas. St. Mary's tower and spire, an elegant and effective structure, was designed by Messrs. Dunn and Hansom, of Newcastle. Roman Catholic churches of a humbler order have been erected at Camberwell New Road, architect, Mr. C. A. Buckler; Northfleet, architect, Mr. J. Multon; Harrogate, architects, Messrs. Goldie and Child; and elsewhere.

The Wesleyan Methodists are making vigorous exertions in chapel building, but more large buildings are in progress than have been completed during the year. At Burton-on-Trent, a handsome Second Pointed building, with a tower and stone spire, 120 feet high, has been erected from the designs of Mr. E. Holmes, of Birmingham. At Darlington, a chapel of red brick with stone dressings, Romanesque in style, from the designs of Mr. Pritchett, for a congregation of 1,500, at a cost of about 4,200*l.*, At Frodsham, a spacious French Gothic building, designed by Mr. C. O. Ellison, of Liverpool, has been erected at a cost of over 6,000*l.*, defrayed by T. Hazlehurst. Others have been built, at Banbury, semi-classic in style; at Hull, Gothic; at Alvaston, Gothic; at Denton, for 600 persons, at a cost of 3,500*l.*, Gothic, architect, Mr. G. B. Ford, of Burslem; at Masborough; at Woodbridge, Suffolk; at Newcastle, and several other places.

The Congregational Union have commenced the erection of a Memorial Hall, in Farringdon Street, just out of Fleet Street, which is to serve as the head-quarters of the body, and provide a large hall that can be used both as a place of worship and for the holding of denominational and public meetings. The building is a memorial of the ejection on St. Bartholomew's

Day, 1662, of 2,000 clergymen of the Church of England from their benefices, for refusing subscription in accordance with the Act of Uniformity. The façade will be somewhat ostentatiously mediæval in character, and have on one side a tall tower and pyramidal spire. Besides the great hall, which will accommodate an audience of 1,500 persons, there will be a spacious library, board-rooms, and numerous offices. The site has cost 28,000*l.*; the building, it is estimated, will require a somewhat larger sum. The architects are Messrs. Tarring and Sons. Several Congregational churches and chapels have been erected, but none that require more than a cursory notice. They are all Gothic, and intensely ecclesiastical in external aspect. One of the most pretentious is at Lightcliffe, Yorkshire, designed by Messrs. Lockwood and Mawson: an early Second Pointed cruciform building, exuberant in carving, and having painted glass windows, &c., and which will have a pinnacled tower and spire, 150 feet high. Of the same style is a church at Stone, Staffordshire, designed by Mr. Bidlake, of Wolverhampton, which provides accommodation for 700 persons, and has cost about 3,700*l.* Others have been built at Melbourne, late First Pointed, designed by Mr. G. H. Sheffield, of Derby; at Gateshead, Second Pointed in style, designed by Mr. J. H. Pritchett, of Darlington; at Utley, near Keighley, Yorkshire, Second Pointed in style, designed by Mr. G. Smith, of Keighley; Thame, in Oxfordshire, a neat Second Pointed building, designed by Mr. W. Poulton; at Great Boughton, Cheshire; at Leicester, &c.

The Baptists have completed the East London Tabernacle, Burdett Road, Stepney, a building of large size, but of slender architectural pretension, and having the reprehensible speciality of large school and class rooms underneath the chapel. Baptist chapels have also been built, at Cobham, Bristol, a showy, cruciform Gothic edifice, for a congregation of 500; at Colnbrook, of the Corinthian order; at New Barnet, Byzantine; and in various other places. The United Presbyterians have built chapels, among other places, at Jarrow, South Shields, a Second Pointed building, designed by Mr. J. J. Lish, of Newcastle; in Westmoreland Road, Newcastle-upon-Tyne, a large, handsome, and substantial First Pointed building, designed by Mr. T. Oliver, of that town; at Pendleton, a Gothic building, designed by Messrs. Whitaker and Russell, of Rochdale. Chapels built by Unitarians and other sects may be passed over, but we must record the completion of the Scandinavian Sailors' Church, near the Commercial Docks, Rotherhithe. The church, designed by Mr. Birch, is hexagonal in plan, and has appropriately somewhat of a Northern architectural character. It affords accommodation for a congregation of about 350; and adjoining it is a club-room for the sailors and their officers.

4.—Buildings for Public Purposes.

A new Town Hall was formally opened at Wolverhampton in the autumn of 1871. It stands in the market square, opposite

the Exchange, and occupies the site of the well known Lion Hotel. The new building is large; in style Italian, the principal front consisting of a centre and wings. It is built of Cefn stone, with bands of blue stone, and has some good carving. It was designed by Mr. Bate, and cost about 20,000*l*. Hungerford Town Hall and Corn Exchange opened about the same time, is an Italian building of red brick with Bath stone dressings, designed by Mr. J. H. Money, of Newbury. At Wootton-under-Edge, a new Town Hall has been added to the old market house, which has been restored, and the group made to harmonise. The architect was Mr. C. Pritchett. Wednesbury New Town Hall is a classic building of the Corinthian order. Of far greater magnitude, and very different in character, are the Plymouth Guildhall and Law Courts, a group of Gothic buildings of intensely monastic aspect, designed by Messrs. Hine, of Plymouth, and which are expected to be completed by the autumn of 1873. A new Exchange, late Gothic in style, is in course of construction at Leeds, from the designs of Messrs. Healey, of Bradford.

Public rooms have been erected at Tunbridge Wells, from the designs of Messrs. Wilson and Wilcox, of white brick, with Bath stone dressings; French Renaissance in style, the wings having tall Mansard roofs, with ornamental crestings and dormer windows. The great hall is 100 feet long, 42 wide, and 35 high. There are besides, reading, club, and billiard rooms, and various offices. County Court Offices, Gothic in style, spacious, substantial and of good design, by Mr. T. C. Sorby, have been erected at Durham; and other public rooms elsewhere.

The construction of Vestry Halls for the large metropolitan parishes continues, and some of them are substantial and ornamental piles. Camberwell Vestry Hall might be cited as an example, but at present little progress has been made with the building. Poplar Vestry Hall is, however completed, and has a sufficiently ambitious façade, French Renaissance in style, of brick and Portland stone, with polished granite columns. It has an advanced centre, with a loggia on the first floor, the arcade of which is supported by six caryatides. The architects were Messrs. A. and C. Harston. A new Hall and Offices have also been built for the Poplar Board of Works by the same architects and of the same materials, but in a more sober style.

The Foreign Cattle Market, constructed by the Corporation of London on a portion of the Naval Dockyard, Deptford, has been in successful operation since the beginning of the year. It covers an area of about 28 acres, and is provided with convenient piers and landing stages by which the animals can walk from the ships to the lairs, sheds and pens. Some of the great shipbuilding sheds, the largest being 400 feet long, have been retained, and other neccssary buildings added. These include three large and several smaller slaughter-houses, each of which is filled with cranes, travelling pulleys, and the most approved appliances for saving labour, and minimizing the suffering of the animals, and in which 700 cattle and 1,600 sheep have been killed and dressed

in a day. The pens provide standing for 4,000 cattle, and about 12,000 sheep, every pen having its water trough and feeding rack. The buildings and general arrangements were executed under the superintendence of Mr. Horace Jones, the city architect, who designed Smithfield Market, and is engaged on the additional Meat and Poultry Market about to be constructed.

Columbia Market has been transferred by Lady Burdett Coutts to the City of London, with a view to its becoming a sort of adjunct to Billingsgate, but thus far it has not been more successful under Corporate than it was under amateur management. The probabilities are strongly against establishing a fish market at Bethnal Green, though something will be done towards it if the Corporation construct the tramway they propose to lay down between the market and the Great Eastern Railway. The project of converting Farringdon Market into a fruit and vegetable market, to rival or supersede Covent Garden, has been suspended, if not abandoned, though the Markets Committee speak of "the reconstruction of Farringdon Market being under consideration." Meanwhile, Covent Garden has had a new flower market with an area of 16,000 superficial feet, and the most improved appliances added to it. The City Markets Committee have under consideration a plan for a new market at Leadenhall, which seems likely to be carried out.

At Bradford a large covered market has been erected by the corporation from the designs of Messrs. Lockwood and Mawson. The exterior is Italian in style, and comprises besides the chief entrance, a market-tavern, shops, &c. The interior consists of four avenues, each 45 feet high, and is well lighted and ventilated At Bristol a new roof has been built over the quadrangle of the Corn Exchange, and its architectural character improved by Mr. E. M. Barry, R.A. The new markets at Newton-Abbot, Devonshire, designed by Mr. J. Chudleigh, comprise two detached blocks with Italian façades, the largest being a hall which will serve as a corn exchange and assembly room, while the smaller block contains the meat and vegetable markets. At Knutsford a new Town Hall, Gothic in style, has been erected from the designs of Mr. Waterhouse, at the cost of Lord Egerton of Tatton. The market is held in the ground floor, the first floor, a fine room, being reserved for meetings, concerts, balls, &c. A similar building has been erected at Abergavenny, from the designs of Messrs. Wilson and Wilcox, at a cost of 12,000*l*. The exterior is comparatively plain, the chief feature being a tall and massive tower at the junction of the streets, but the assembly room on the first floor is said to be one of the finest in this part of the country. A spacious Assembly Hall, intended to serve also for meetings, at which it can furnish 600 seats, has been erected at Daventry, from the designs of Messrs. Walford and Hewitt. At Rochester a new Corn Exchange has been opened, which is described as an exact reproduction of the Cutlers' Hall, Sheffield. The architects were Messrs. Flockton and Abbott, of Sheffield. In the new Corn Exchange, Yarmouth, the architect. Mr. J. B.

Pearce, without such servile copying, has produced a pleasing if not a very original Italian design.

Cattle and vegetable markets, covering two acres of ground and having neat Elizabethan lodges and buildings, have been erected at Kidderminster, under the direction of Mr. J. H. Moore, the borough surveyor. At Leicester, the corporation have constructed a cattle market occupying an area of nearly 20 acres, and including besides the pens, &c., ten slaughter houses and various buildings, while the Midland Railway Company have erected close to it a convenient cattle dock.

Turning now to a different branch of our subject, we may note the completion of several important general and special hospitals and benevolent institutions. One of the largest is the New Southern Hospital, Liverpool, which was formally opened by Prince Arthur in May last. The building occupies a parallelogram, 300 feet long by 80 wide; is arranged on the pavilion system; built of grey brick and stone, and is Gothic in style, but has little ornamental detail. The hospital provides about 200 beds, and every approved appliance has been introduced. The architects were Messrs. Culshaw and Summers; the cost of the building was over £30,000. The Horton Infirmary, Banbury, noticed last year, has been formally opened. The Ardwick and Ancoats Dispensary, Mill Street, Manchester, a spacious Gothic building of red brick and terra cotta, designed by Mr. D. Lewis, is advancing towards completion. At Weymouth a good Gothic building of Portland stone has been erected for the Dorset Eye Hospital; and a red brick and stone building for the Royal Hospital and Dispensary, Mr. C. R. Crickmay being the architect for both buildings. The Guest Hospital, Dudley, for which the late Mr. Guest left an endowment of £20,000, has been built by the Earl and Countess of Dudley at a cost of over £30,000.

Further, we have vast County Lunatic Asylums, as that for South Yorkshire, in Wadsley Park, near Sheffield; at Hereford; at Virginia Water; Caterham, and elsewhere; and county and parish infirmaries, as at Watford, &c.; but along with them we note the humbler but not less valuable Cottage Hospitals, such as those recently completed by the Marquis of Ailesbury at Savernake, and others at Dorking, Tewkesbury, and various other places.

5. Buildings connected with Education, Art, &c.

At the Universities the chief architectural work in progress is that of restoration. At Oxford the most extensive operations are those at All Souls' College, where the chapel has been undergoing a thorough renovation under the direction of Mr. Clutton. The Hall of Merton College has been entirely recast under the direction of Sir G. G. Scott. The works include new windows, a new open timber roof, new west gallery, and competely new fittings. At Magdalen various improvements have been made in the college, and a fine new class-room, &c., added to the schools, the architect being Mr. Buckeridge. The chapel of St. Mary's

Hall has been partially restored, and a new east window inserted under the direction of Mr. Buckler.

At Cambridge the chief work of the year is the erection of a new Master's house and additional block of buildings for students at Pembroke, from the designs of Mr. A. Waterhouse. The new buildings group well with the old, and form an important addition to the architecture of Cambridge. The same architect is bringing to a conclusion his extensive restorations at Jesus College, which will have the effect of very considerably altering, and we may hope improving, the appearance of that well-known pile. Sir Gilbert Scott is carrying forward an addition to the south end of King's College; and works of more or less importance have been or are about to be commenced at Magdalene and Emmanuel Colleges and Trinity Hall. The University Laboratory, the munificent gift of the Chancellor, is making satisfactory progress under the direction of Mr. W. M. Fawcett.

A new Grammar School, with master's house and accommodation for over 100 boys, has been built at Maidstone, and is described as being convenient and well planned in its main features and complete in its accessories. The architect was Mr. E. W. Stephens. A new Grammar School has also been erected at Yarmouth, providing, besides the class rooms, master's house, &c., accommodation for 40 boarders. At Dover a Middle Class College has been opened on the site of the famous Priory of St. Martin, the refectory of the priory having been restored and converted into a school, and the Gate-house and other remains turned to account for the master's house, &c. The architect charged with the transformation, Mr. Perry, of Dover, has carefully preserved the original character of the several parts.

St. Chad's School, Denstone, Staffordshire, is a large middle-class college in course of erection in connection with St. Nicolas College, Lancing, and is to form one of three schools about to be established in the Midland Counties. When completed, St. Chad's will form a spacious quadrangle, with a long chapel projecting from one angle. The buildings, which will accommodate 400 boys, are of the local Alton stone; the style is somewhat grim Gothic; the architects are Messrs. Slater and Carpenter. A new school for boys has been erected on Wandsworth Common out of the surplus from the Patriotic Fund subscribed for the relief of widows and orphans of soldiers who lost their lives in the Crimea. The school, designed by Mr. Saxon Snell, is a red brick and stone Gothic building, with a tall central tower; it will accommodate 230 boys, and cost £25,000.

The London School Board have issued a very full code of rules for the guidance of architects in the erection of schools for primary education, which, though in some points unnecessarily minute, and in others too inelastic, embody many valuable suggestions. The Board are also commencing vigorously to erect new schools, and modify existing ones. Another year, however, will be soon enough to take note of the results. The Board are also about to erect a home for themselves on the

Thames Embankment, in which they may hold their meetings and carry on their official business; and, as they have invited Sir Digby Wyatt, Mr. Waterhouse, Mr. Botley, and Mr. Scott, to furnish designs for it, we may hope that it will be a building not unworthy of its purpose and the site it is to occupy.

Among the educational buildings for which provision has been made two claim especial notice. One is the Science College, Birmingham, which Mr. Josiah Mason has undertaken to erect, endow, and make over as a free gift to his fellow townsmen, and for which a suitable site has been obtained near the Town Hall. The other is the College for Ladies, which is about to be erected in the Huntingdon Road, about two miles from Cambridge, with a view to the fair students having a share in the teaching of the University. The building, designed by Mr. A. Waterhouse, will be Collegiate Gothic in style, of red brick, with terra cotta dressings.

The Roman Catholic College of St. Joseph, Mill Hill, near Hendon, is a large, quaint, and sombre monastic group of buildings, erected from the designs of Messrs. Goldie and Child, as a college for Missionaries for the British Colonies. The buildings include the usual class-rooms, common room, refectory, large library, church with antechapels, superior's house, infirmary, &c., grouped around a spacious cloister-court, or quadrangle. They are of brick and stone, and form from their elevated position a conspicuous object for a considerable distance.

Schools of Science and Art have been erected in several places. At Gloucester, a capacious Gothic building has been erected from the designs of Messrs. Fulljames and Waller of that city, which, in addition to the schools, provides a museum and library 60 feet by 20. A School of Science, with museum and art gallery, has been erected in the rear of the Hartley Museum, Southampton, from the designs of the borough surveyor, Mr. Lemon. By the entrance to the park, Birkenhead, Mr. J. Laird, M.P., has built a convenient and well-arranged School of Art, from the designs of Messrs. W. and J. Hay, of Liverpool. Mechanics' Institutes, with class and lecture rooms, have been built at Bradford, Barrow-on-Furness, and elsewhere.

The City of London Library is advancing towards completion. It occupies the ground east of the Guildhall, extending to Basinghall Street, and is a substantial, Third Pointed stone building, harmonizing in general character with the Guildhall, without being too close an imitation of it. It is to serve the double purpose of a museum and library, the ground floor being designed for the reception of the City's valuable collection of London antiquities; the upper floor for the still more valuable collection of charters, manuscripts, and printed books. Each of these departments consists of a nave and aisles, the museum being about 90 feet, the library 100 feet long, with a reading-room 51 feet by 25. The building is being erected under the superintendence of Mr. Horace Jones, the City Surveyor. The Library of Lincoln's Inn has been considerably enlarged, under the direction of Sir

Gilbert Scott, and its architectural character modified by the erection of an octagonal tower and spirelet at the south-east angle.

At Hull a new Theatre Royal has been erected on the site of the former Queen's Theatre. Externally it has a bald classic front; the interior is similar in plan and appearance to that of the Globe Theatre, London. It will hold 2,000 persons. The architect was Mr. G. A. Middlemiss, of Sunderland. In London a large theatre is in course of completion near the Elephant and Castle, Newington Causeway. It will hold 3,000 persons, and be provided, outside the auditorium, with a promenade, large smoking and refreshment saloons, bars, &c. The building, which was originally intended for swimming baths and for holding public meetings, is being converted to its present purpose by Messrs. Dean and Co. The more magnificent Criterion Theatre and Restaurant, Piccadilly, is advancing, but is yet far from completion.

6.—Street Architecture.

Our civic architecture shows no falling off in quantity or costliness. At the same time it displays little advance in vigour, originality, or fitness. The greater number of the buildings look as though they were made to order from samples in a pattern book. The styles are either Italian, French Renaissance, or Mediæval, without other perceptible reason for the selection in the particular instance than the whim of the architect or his employer. On the whole perhaps the mediæval type is taking the lead, and there is a growing tendency to indicate the purpose of the building by representations of persons engaged in art, manufacture, or commerce, as the case may be, who are usually depicted in strange and uncomfortable costumes, and with limbs and joints very much out of order.

At the West End of London the houses and shops which are being built are certainly far superior to those they are supplanting; it will, however, be enough to mention two or three by way of example. Messrs. Elkington's new premises, Regent Street, is a solid-looking and not too ornate Italian building, designed by Mr. F. Peck. More of novelty is shown in a shop and warehouse erected in Piccadilly, a free adaptation of a mediæval type, constructed of dark red brick, but in which a good deal of effect is secured by the varied forms of the windows in the several stories, and especially by the deeply recessed windows and balcony of the second storey. The wall surface is further relieved by panels with designs and inscriptions referring to the occupation of the proprietors, Messrs. Sotheran and Baer, booksellers, portraits of authors, and a series of designs, in coloured earthenware, representing the various stages in the preparation of a book. The architects, Messrs. Vaughan and George, deserve all credit for the boldness of the conception and the thoroughness with which they have carried it out; but we must wait till the scaffolding is removed to judge of the effect,

and a year or two longer to judge how it will wear. The Union Bank, Charing Cross, is a large and solid looking structure befitting the establishment to which it belongs, but of the well-worn type of 'Italian of the three orders,' with an attic; the chief innovation being the employment of granite in the dado, columns, and pilasters. The interior is admirably finished, the bank-room being a really fine apartment. The architect was Mr. F. W. Porter. Some superior shops and offices have been built, or are building, in Oxford Street, Jermyn Street, Stratton Street, Victoria Street, and about Pimlico and Knightsbridge.

Turning to the City, we may note that the vacant spaces along the lines of the Holborn Viaduct improvements are being filled, though slowly, and always with buildings which the architects have sought to render ornamental. Some of those by the Holborn Circus are excellent in their way, especially the great drapery establishment on the south side of Holborn. At the other end there is promise that the Fleet Street Circus will also make a considerable display. In the dull and narrow Shoe Lane, close by, several large offices have been built, like that of the 'Standard' newspaper, designed by Mr. Parkinson, of a solidity and style such as we should scarcely expect to find in such a locality.

Along the other great city improvement, Queen Victoria Street, houses are rising with greater rapidity, and some of these are above the average of architectural merit. Among the best yet erected are the Albert Buildings, designed by Mr. F. J. Ward, in which a substantial business-like character is united with a sufficient, but not excessive, amount of ornament. The difficulty arising from the great extent of window surface is successfully conquered, monotony of sky-line is cleverly avoided, and a good play of light and shadow attained, without resorting to any bizarre contrivances. In Cornhill and the Poultry two or three good shops and offices have been erected, and the removal of St. Mildred church, facing the Mansion-House, has opened the way for other new buildings. Offices and shops of a more or less costly kind have been built, or are building, in Mark Lane and Mincing Lane, Fenchurch Street, the neighbourhood of Wood Street, Ludgate Hill and the Old Bailey, Newgate Street, Aldersgate Street, and Smithfield. Indeed, to whatever part of the city we turn we come upon traces of the builder—sometimes, it must be owned, where his presence could well be spared, but generally we find him supplying the place of mean-looking houses with magnificent ones.

Good work is also being done in the streets of our larger towns. In Liverpool, Manchester, Bradford, Leeds, and the great manufacturing and commercial towns of Lancashire and Yorkshire generally, new banks, offices, warehouses, and shops are constantly being built, and many of them are large and elaborately decorated structures; and Birmingham, Derby, and the leading towns of the midland counties, and Bristol and Exeter in the west, are in their several proportions busily building, and giving to all their larger works as much architectural importance as

they can achieve. Thus at Hull, having to erect such an unpromising thing as dock offices on a triangular piece of ground, we see them giving to each front a classical Italian elevation, and emphasising the form by putting at each angle a tall, circular dome-capped tower. The architect of this building is Mr. C. G. Wray. Another classic Italian building has been just completed from the design of Mr. W. Botterill, for the Hull Banking Company. At Newcastle-upon-Tyne large and handsome offices have been built for the National Provincial Bank of England, from the designs of Mr. J. Gibson. Banks have also been built at Workington, from the designs of Mr. J. Hodgson, and in various other places. In the building of great hotels there is perhaps partial abatement, but some, like the Granville, at Brighton, designed by Mr. J. Giles, the St. James's, Derby, and a few more, might be named. The Granville, at Ramsgate, by Mr. Pugin, described by us last year, has been completed by the erection of a tower of such massive proportions, remarkable form, and costly construction, that one is filled with wonder as to what could have induced the proprietors to make such an outlay, unless it were a benevolent desire to provide an unrivalled sea- and land-mark for Thanet.

7.—Bridges, Docks, &c.

The vast works in the Government Docks and Navy Yards at Portsmouth and Chatham, described last year, are being steadily carried forward; as well as other important works in those yards, and at Plymouth, Woolwich and Sheerness. A new dock has been made at Bootle, in extension of the great system of docks at Liverpool. The Huskisson Branch Dock, as it is called, is intended for steam ships, and is 1,200 feet long and 300 wide, and affords 2,700 feet of quays. At Newport, a new dry dock capable of receiving the largest vessels, has been recently opened. In the busy new iron town of Middlesborough, a capacious new dock is being added, at a cost of over 100,000*l*., to that previously constructed. At another new town, which has rivalled Middlesborough in the rapidity of its growth, and the vastness of the works of which it is the centre, Barrow-in-Furness, a new dock is being constructed, which has a length of no less than 6,000 feet, and an extreme width of 2,500 feet. The entrance to the Ramsden Dock, as it is named after the popular mayor, is 100 feet wide, and it will consequently admit vessels of the largest size yet built. When this dock is completed the Barrow Docks will have a water area of 360 acres, with connected warehouses covering an area of 200 acres. Large graving docks have also been constructed and extensive new ship building yards opened. Among other important works being carried out here are very large flax and jute mills, and immense new Hæmatite Steel Works, in which provision is being made to admit the employment of 4,000 workmen, and, the architectural features having been entrusted to Messrs. Paley and Austin, we are likely to have, what is still very unusual, a

great manufacturing establishment which is not an offence to the eye.

The new pier, Hastings, which was recently opened, amidst much rejoicing, by Earl Granville, as Lord Warden of the Cinque Ports, is similar in general appearance to the West Pier at Brighton, and like that is constructed on a foundation of iron screw piles. Three hundred and sixty iron columns firmly braced and tied together, bear wrought iron girders which support the roadway. The pier is 910 feet long; 190 feet wide at the entrance, narrowing to 45 feet, and at the end expanding into a platform 300 feet by 130 feet, on which has been erected a pavilion capable of holding about 2,000 persons. A line of seats is carried along the whole extent of the pier, and two landing stages are provided available at all states of the tide.

The Portland Breakwater, of which we announced the completion last year, was only formally declared completed by the Prince of Wales, on the 10th of August last. Small as the work looks to the eye now it is finished and cleared from all the woodwork and stages, no less than 7,000,000 tons of stone have been employed in its construction. The breakwater is formed in two sections, an Inner or Eastern, and an Outer or Western pier, separated by an opening 400 feet wide for the passage of ships. The inner pier runs out from the north-eastern angle of the Isle of Portland for about 1,800 feet in an easterly direction. The outer pier is carried at an obtuse angle north-by-east for a farther distance of about 6,000 feet. In reality the breakwater is a rubble wall formed in deep water, a mile and a-half long, and 100 feet high, 300 feet wide at the base, and 50 feet at the sea-level. The harbour formed by it has an area of about 2,000 acres, and is defended by shore batteries and by a fort formed in the sea, like the breakwater, by the heaping up of masses of solid stone (in all 140,000 tons have been required), and which will have an armament of 60 guns of large calibre. The harbour has proved a secure station for the largest ships of war, and enabled hundreds of merchant vessels to ride in safety in the severest gales. The cost of the breakwater has exceeded a million sterling, but the money has been well and wisely spent.

JAMES THORNE.

METROPOLITAN CHARITIES AT THE PRESENT DAY.

If there is one feature more than another which stands forth prominently in the history of English philanthropy it is the completeness with which it supplies, or at any rate is adapted to supply, the wants of all classes of persons at all periods of their lives. Our charitable institutions, taken as a whole, may indeed be described as presenting a direct fulfilment of the apostolic injunction to be 'perfectly furnished unto all good works,' for there is no want of man in the requirements of his threefold organization of body, soul, and spirit, which is not met by one or other of the societies and funds founded by the benevolent in past ages or at the present time. That there is, and ever will be, a vast amount of sickness and pain unrelieved, of ignorance and of crime unchecked, does not alter the fact, but simply proves that funds are badly administered, or that those for whom they are intended fail to take advantage of them, for it is unquestionable that in London alone there is a charity to suit every want and to meet every necessity. Of the funds designed to supply the merely bodily needs of the poor and afflicted; of the medical charities, including general and special hospitals and dispensaries; of the asylums and almshouses for the aged; of the benevolent and provident funds and pension societies; of the patriotic funds for the relief of soldiers and sailors, their widows and orphans; of institutions for children; and lastly, of associations for organizing charitable relief and repressing mendicity, we spoke at some length in the 'Companion to the Almanac' for 1872. It now remains for us to supplement the remarks then made by some details of the objects and working of the still larger class of funds devoted to the mental and social improvement of the people, and to the supply of religious instruction, according to the varied creeds, the propagation of which is apparently regarded as an incumbent duty by all professing Christians.

Looking first at those institutions which combine the work of mental and social elevation with the more eleemosynary work of actual almsgiving and the support of the aged and infirm, and thus naturally form a connecting link between the last and the present paper, inasmuch as their operations belong to both the divisions of our subject, we can point with satisfaction to the

City Companies.

These world-famous Corporations still continue to carry out in a greater or less degree the objects for which they were founded—the promotion of the interests of the various crafts whose titles they bear, and the followers of which they still assist. Although in the first instance these ancient guilds were, as Knight points out in his 'History of London,' chiefly intended for the relief of poor and decayed members of the various

trading companies by whom the funds were administered, they speedily became the recognized trustees of many other charities placed under their control by benevolent persons, the list of whom, even at the time when Stowe published his well-known 'Survey of London,' filled about twenty-five pages of his work. From that day to the present the resources of the Companies have been, and are being increased by the donations of their members, and it is but fair to add that in the majority of instances the Masters, Wardens, and the courts chosen from the liverymen, in whom the management of the property is now vested, discharge their duties in the most honourable manner, with a due regard to the intention which the donors of the various bequests had in view. Nor must it be forgotten that in the majority of instances the administrators of these funds are to a great extent restricted as to their expenditure, the objects to which the money is to be devoted having been very distinctly specified, and any departure from the course suggested would, therefore, be an obvious breach of faith. In those cases where bequests have been available for general purposes the Companies have, as a rule, shown a wise discretion in devoting them to objects of immediate and practical importance, such as the establishment of schools, as in the case of the *Stationers' Company*, whose school is now one of the most useful educational establishments in London; or to the formation of convalescent hospitals, such as that established at Bognor, in 1870, by the *Merchant Taylors' Company*, for the reception of 35 convalescents. Others again, *e.g.*, the *Turners' Company*, are devoting themselves to the encouragement of technical education in the various branches of industry to which they relate, by the offering of prizes, and the foundation of scholarships. While the City Companies thus show a disposition to advance with the age in the management and development of their vast endowments it is also not to be forgotten that in the discharge of their ancient functions as the representatives of the several branches of trade and commerce in this country they have ever been distinguished. The great social gatherings within their noble halls afford an opportunity for a friendly meeting on neutral ground of men who differ widely on the religious, political, and even social questions of the day, and although modern utilitarianism may be disposed to question the wisdom of the expenditure involved in such entertainments, there can be very little doubt that the good effected by them is more than a fair return for the mere pecuniary outlay which, after all, is in its way as justifiable as any other similar proceeding in Church or State. Nor must we omit to notice that the funds distributed in pensions and donations to distressed members of the trading community serve to relieve many who would otherwise become a burden on the rates, and as these advantages are secured without any appeal to public liberality it is difficult to understand the object of those persons who would seek to interfere with these venerable corporations. In order to give the reader a complete idea of the varied character of the companies,

and of the work they were intended to fulfil, the following list, for which we are indebted to the late Mr. Sampson Low, junior, will be of interest :—

	A.D.		A.D.
Mercers	1393	Stationers	1556
Grocers	1345	Embroiderers	1591
Drapers	1439	Upholders	1627
Fishmongers	1284	Musicians	1604
Goldsmiths	1327	Turners	1604
Skinners	1327	Basketmakers	
Merchant Taylors	1416	Glaziers	1637
Haberdashers	1447	Horners	1638
Salters	1558	Farriers	1673
Ironmongers	1464	Paviors	
Vintners	1437	Lorriners	1488
Clothworkers	1482	Apothecaries	1617
Dyers	1469	Shipwrights	1610
Brewers	1438	Spectaclemakers	1630
Leathersellers	1442	Clockmakers	1632
Pewterers	1474	Glovers	1556
Barber Surgeons	1308	Combmakers	1650
Cutlers	1417	Feltmakers	1604
Bakers	1307	Framework Knitters	1664
Waxchandlers	1484	Silk Throwsters	1629
Tallowchandlers	1463	Silkmen	1608
Armourers	1463	Pinmakers	1636
Girdlers	1448	Needlemakers	1656
Butchers	1604	Gardeners	1616
Saddlers	1280	Soapmakers	1638
Carpenters	1344	Tinplate Workers	1670
Cordwainers	1410	Wheelwrights	1670
Paperstainers	1580	Distillers	
Curriers	1605	Hatbandmakers	1638
Masons	1677	Pattenmakers	1670
Plumbers	1611	Glass Sellers	1664
Innholders	1615	Tobacco-pipemakers	1863
Founders	1614	Harnessmakers	1677
Poulterers	1503	Gunmakers	1638
Cooks	1481	Wiredrawers	1623
Coopers	1501	Bowstringmakers	
Tilers	1568	Cardmakers	1629
Bowyers	1620	Fanmakers	1709
Fletchers	1536	Woodmongers	
Blacksmiths	1577	Starchmakers	1632
Joiners	1564	Fishermen	1687
Weavers	1164	Parish Clerks	1232
Woolmen		Carmen	
Scriveners	1616	Porters	
Fruiterers	1604	Watermen	1559
Plasterers	1500		

Nearly akin to these companies, and established originally for the exclusive benefit of the citizens of London are the

Parochial Charities

of the cities of London and Westminster, the annual receipts from which (*i.e.*, from funded property, rents, &c., not from present contributions) amount to the considerable sum of about 113,000*l.*, and will, owing to the increasing value of property eastward of Temple Bar, annually rise, until they assume still more extensive proportions, while the resident population of the parishes is diminishing and will continue to decrease. By the aid of a return, moved for in the House of Commons last year by Mr. Andrew Johnston, we are enabled to show the varied heads under which the income is expended :—

Education	£26,392
Apprenticeship and advancement	4,505
Endowments of clergy, lecturers, and for sermons	6,678
*Church purposes	29,317
*Maintenance of Dissenting places of worship and their ministers	57
*Public uses	7,169
Support of almshouses, their inmates, and pensioners	21,287
Distribution in articles of kind	3,975
Distribution of money	7,739
General uses of the poor	4,422
Medical	1,482
†Loans	882

By way of comparison it may not be uninteresting to state that in the City of London (*i.e.* the City proper eastward of Temple Bar), the population by the census of 1871 was 74,897, the proportion of the income of the parochial charities above referred to for the same area, being 84,912*l.* If to this we add the incomes of the incumbents of the City parishes which may be taken on the estimate of the statements furnished under the Bishop of London's sanction, at about 41,000*l.*,—probably considerably below the real figure—we have the enormous sum of 125,000*l.* in round figures, paid annually for the benefit of 74,897 persons, and it is obvious that the increase in the value of the property, and consequently of the incomes, will continue to be in an inverse ratio to the population. These facts, the consideration of which has already led to the demolition of city churches, and the erection of new edifices in the suburbs must ultimately lead to a similar proceeding in regard to the parochial charities, and it can scarcely be denied that under present circumstances there must be a large expenditure with but little to show for it on the mere machinery which is still maintained even in the smallest parishes where an Easter vestry to transact the legal business is sometimes very difficult to assemble. Whether it would not be wise as well as just to divert the proceeds of some of these ancient endowments for the benefit of suburban parishes which sorely need assistance, is a matter worthy of consideration, as it is possible that if reform in this matter is not commenced at home, it may and probably will be undertaken by the House of Commons, with results scarcely as satisfactory to the persons immediately concerned. It is, indeed, perfectly true as suggested in the interesting report on the census of the City presented to the civic authorities by the committee of which Mr. Lawley was the chairman, that the rules for taking the census were unfavourable in every point of view for obtaining a return which would present a reliable index of the progress or decadence of the City of London. First, it was taken at midnight when the population of the city proper had, to a great extent, passed into the suburbs and elsewhere to sleep; secondly, it was taken on a Sunday night, when the population accustomed to sleep in the City is at its *minimum;* and, thirdly, it was taken in a year when the area represented by vacant ground and untenanted buildings in the City was at its *maximum*, owing to

* In City of London only. † In City of Westminster only.

the then incomplete condition of the vast improvements and public works undertaken by the Corporation, the Metropolitan Board of Works, and others. Making, however, every allowance for any addition to the resident population which might have been caused by the alteration of the second and third conditions—the first has no influence on our view of the subject, as mere day-dwellers in the City are not likely to receive aid from the charities—the result would be almost the same, as the addition to the population would not affect the huge proportion which the income from actual endowment bears to the number of persons benefited, and thus the anomaly and the need for reform would still exist.

Having considered the two great classes of Metropolitan charities which are designed to promote both the mental and social improvement of the people, we turn in the next place to the purely

Educational Charities and Schools,

a somewhat tautological term which we adopt because there are many funds to aid education not directly attached to any special school or college.

At the head of the societies established for the promotion of education we find numerous institutions supported by the various religious bodies to whom the nation is almost entirely indebted for the network of schools spread throughout the kingdom, the principle of state aid having been somewhat tardily adopted. Up to the last few years the amount expended from the national exchequer on this great work which has now assumed so much prominence in the programmes of our Cabinets and the promises of our statesmen was comparatively small, and unless religious zeal had done the work there can be little doubt that it would have been, to a great extent, left undone. From 1832 to 1839, for instance, the annual vote for educational purposes was only 20,000*l.*, and this was expended by the Treasury in grants for the erection of school buildings, not for purposes of actual instruction, through the National Society and the British and Foreign School Society, the representatives of the Church and the Nonconformists, the grants made through the former society being largely in excess of those given through the latter. It was in the year 1839 that a separate committee of Privy Councillors was formed and has since been known as the Education Committee, Lord Melbourne's Ministry thus having the honour of initiating a work which has resulted of late in the appointment of that much needed state official, an Education Minister, with a seat in the Cabinet. From that day to this the amount annually voted by Parliament has steadily increased. In the two years following the formation of the committee, 1839 to 41, the vote was raised from 20,000*l.* to 30,000*l.* From 1842 to 1844 it stood at 40,000*l.* a year. From 1846 to 1850 it advanced to the large sum of 115,000*l.* yearly; and in 1851, the year of the Great Exhibition, when a considerable stimulus was given to the public feeling in favour of all movements for national

education and mental improvement, it was raised to 150,000*l.* From that date to the present the rise in the amount has been equally striking, as will be seen from the following table of the annual grants in England alone :—

1852 160,000	1859 836,920	1866 694,530
1853 260,000	1860 798,167	1867 705,865
1854 263,000	1861 803,794	1868 781,324
1855 396,921	1862 842,119	1869 840,711
1856 451,213	1863 804,002	1870 914,721
1857 541,233	1864 705,404	1871 1,458,402
1858 663,435	1865 693,078	1872 1,551,560

Nor must we pause here if we desire to arrive at any fair conclusion as to the amount now in process of expenditure on education, all of which, although not directly so classified, is in reality to be placed to the credit of the charitable impulse of the public, and the desire that every inhabitant of the United Kingdom should have a fair opportunity of success in life. The School Boards formed under the Education Act of 1870 have sprung up in all parts of the country at a large cost to the ratepayers, and although the expenditure is met by local rates, instead of from the proceeds of imperial taxation, and its enormous total will thus probably pass unnoticed, it will, we believe, form an addition to the national outlay on this head which will astonish even the most earnest advocates of compulsory education a few years hence. When to these organized systems of educating the masses we add the incomes of the great societies which have long laboured in the same field, and the sums raised by the various minor organizations, the result can scarcely fail to furnish a very decisive proof that education is, as the newspapers term it, "the question of the day." *The British and Foreign School Society*, the oldest of the education societies, which was established in 1808, aids in the training of teachers in various normal schools, keeps up model schools, and renders aid in various parts of the country, its income being about 13,000*l.* The *National Society*, established in 1811, and incorporated in 1817, is definitely connected with the Established Church. Its working is most successful, and it not only trains teachers but lends aid to schools, numbered at about 13,000, with a million and a half of scholars. Among the minor institutions working in the same direction we may name the *London Diocesan Board of Education*, the *Church of England Education Society*, the *Home and Colonial School Society*, the *Catholic Poor School Committee*, the *Catholic Education Crisis Fund* (formed in 1871, in consequence of the passing of the Education Act), the *Jewish Education Funds*, the *Ragged School Union*, and the two societies for aiding Sunday Schools. In nearly every case these societies present one very noticeable point of contrast to other classes of metropolitan charities and institutions—there is but little waste of funds on useless machinery, and but small loss consequently of time, energy, or money, a matter for intense satisfaction, as there is but little prospect of any reduction in the expenditure on this head. That each religious

body will ever labour to promote education according to its own creed is a condition inseparable from the existence of ecclesiastical divisions, and the disposition to establish denominational schools will, as the extraordinary efforts made during the past year by the National Society and the Roman Catholics abundantly prove, increase in proportion to the efforts of the State and the local authorities to provide merely secular teaching. It is, therefore, satisfactory to note that each body, as a rule, is satisfied with one organization to carry on the work, thus avoiding the loss from the useless multiplication of agencies which we shall have to point out in the case of the Missionary and Book Societies. The saving effected by this means in salaries and office expenses is of course a net gain, and provides a larger capital for the promotion of the real object in view. These, however, are the general funds—the schools remain to be noticed. The incomes of some of these institutions are enormous. *Christ's Hospital*, better known as the Blue-coat School, formed by letters patent of Edward VI, dated June 26, 1553, takes the lead with its annual revenue of at least 55,000*l.*, exclusive of its pension funds. The number of boys on the foundation, who are wholly maintained and educated, is 1,200, so that the average annual expenditure per child is 45*l.* This, of course, does not represent the actual cost of each scholar, as the outlay of 55,000*l.* includes the exhibitions at the universities, the payment for apprenticeships, &c. *St. Paul's School*, founded in 1509 by Dean Colet, is far more limited in its resources, its income from endowments only averaging about 5,000*l.*, and the number of boys provided for being 153. The *Merchant Taylors' School*, founded in 1561 for the education of 250 boys; the *Mercers' Grammar School*, founded in 1522; *St. Peter's College*, Westminster, founded in 1560 for 40 boys on the foundation; the *Charterhouse School*, formed in 1611, with an income of 25,000*l.*; the *City of London School*, formed on the basis of an endowment dating back as far as the reign of Henry VI; and the *Stationers' School*, founded in 1858, are the other chief schools. During the last few years the popular movement in favour of middle-class education, a very needful work for the benefit of a class of families left almost unprovided for by the older endowed schools and the ordinary primary schools, has led to the foundation in the City of a body entitled the *Middle-Class Education Corporation*, which was inaugurated on the 23rd of July, 1866, and provides a liberal education for the sons of clerks in City offices and other persons of the same rank of life at a charge of one guinea a quarter. Upwards of 1,000 boys are now under training at the Central School, in Cowper-street, City-road, and a girls' school of a similar grade is also to be established. When it is remembered that this school, the admirable conduct of which, coupled with the success of the pupils, is a sufficient proof of the wisdom with which it is governed, meets the wants of those who were formerly dependent on establishments of the type which Charles Dickens so faithfully pourtrayed, its value as a permanent addition to the institutions

of the City of London, is clearly evidenced, and as a proof that it is not maintained by an elaborate system of begging or clerical labour, we may add that its office expenses average only about 400*l.* a-year. In addition to the above, there are numerous class schools, such as the *Licensed Victuallers'*, the *Freemasons'*, and others, which are intended specially for the members or friends of various trades and crafts.

Closely connected with the purely educational charities, we have another group of societies which for the sake of distinction we will designate

Institutions for Mental and Social Improvement.

At the head of these may be placed the system of evening classes, established with such signal success in 1848 at Crosby Hall, in Bishopsgate Street, and now conducted at the City of London College, which has received the support of the heads of the chief City firms, and has a large staff of qualified teachers. A similar series of classes, with a higher tariff of admission, is in existence at King's College, London, where the title of Associate may be obtained by an evening student after regular attendance for three terms. The importance of thus throwing open the advantages of collegiate training to the young men of London, who, in these days, when business is the chief rule of life, are taken from school at an age when their education in the true sense of the word can only be said to have been commenced, is obvious, and the large and increasing number of students under instruction in these two institutions is a proof that they are appreciated by the persons for whom they were established. Of a kindred nature, although intended more for purposes of social intercourse than for actual training, are the two institutions, known as the *Young Men's Christian Association*, and the *Church of England Young Men's Society*. The first-named Association established in 1844, has 1,400 branches, with 150,000 members, in all parts of the country, for whom it provides what is, to all intents and purposes, a club-room, with the advantages of a literary institution attached, the only distinction being that although refreshments are provided no beer, wine, or spirit is sold. The Society in connection with the Church of England is far less extensive in its operations, and in the number of its members. Unlike its predecessor, which possesses, as its central establishment, a handsome building close to the General Post Office in Aldersgate Street, this Society has a few rooms only for its parent institution, and is altogether conducted on a far more limited scale. For the artisans and working men of London the *Working Men's College* is now a firmly established and very useful institution, and in many parts of the Metropolis and its suburbs Working Men's Clubs with reading-rooms, libraries, lectures, and classes attached, are in operation, and are often self-supporting. The number of these clubs in union with the central society, known as the *Working Men's Club and Institute Union*, is about 450, and there are

many others not affiliated. A new feature in the movement is the establishment of a Co-operative Association for the members of the various clubs, which is to be worked in connection with one of the co-operative stores already established. Working women also are provided for at a college in Queen Square, Bloomsbury, where there are about 200 students; and a Youths' Institute has been for some years in successful operation in the north of London. As a means of enabling the busy workers in the City to avail themselves of the benefits of these institutions the *Early Closing Association* has laboured successfully since 1842, not only in promoting the extension of the Saturday half-holiday movement, but by inducing employers of labour to close their establishments at an earlier hour on the remaining days of the week, to abolish all forms of Sunday trading, and to pay wages at an early hour. Of the working of all these institutions we can, after a careful examination of their balance-sheets, speak in the highest terms; not only do they number among their unpaid labourers many eminent men, but in all their monetary arrangements economy is studiously practised, a fact which ought to secure a far larger share of public support than has yet been accorded to them. Without any of the expensive machinery which so soon swallows up an income in salaries, office expenses, printing appeals, and the like, they are labouring silently but surely in a cause, the value of which to the country at large can scarcely be over-estimated.

While the social and mental improvement of the people of both sexes, young and old, is thus cared for, the equally noble work of

Sanitary Improvement

is not neglected. This all-important subject is happily receiving every day an increased share of public attention, and the fact that during the past year one great statesman made 'Sanitas, omnia Sanitas,' the text of a speech addressed to one of the most remarkable audiences ever gathered together in a provincial town, and that the Government has passed a Public Health Act, may be accepted as noteworthy 'signs of the times.' If, as a writer recently remarked, the new Act is found "efficient, ready of application, inexpensive, not cumbrous, and not leaving much room for circumlocution," it will be "the crowning achievement of this century;" for, as it is universally admitted that order is heaven's first law, it is equally certain that health must be earth's first law if this world is to be really a fit habitation for man. Whether, however, this pleasant forecast of the effects of the new Act is borne out by its results or not, there is, and always must be a wide and open field for the exercise of voluntary effort and private benevolent enterprise in the inculcation among the people of a knowledge of the importance of due attention to cleanliness and ventilation. Just as the mere existence of an Established Church, or the establishment of a national system of education can never so far evangelise or educationalise the country as to preclude the necessity for voluntary help so it is

equally certain that the sanitary reformer will never be at a loss for work. Not only in the crowded city, but still more in the badly drained village, with its fever poison lurking in the ditches, and only requiring heat or drought to bring it out, the need for a more general acquaintance with and tendency to act upon the common laws of health is evident, and in both cases the home influence of the visitor or landlord will ever be a valuable aid to the Poor Law official. In this direction considerable progress has been made of late years. Looking, first, at the movement to provide improved dwellings at reasonable rents for artisans there is ample cause for satisfaction. This, be it remembered was a favourite project with the late Prince Consort, and its success may, to some extent, be attributed to his influence, while the action of the Social Science Association, in opening up the ground for practical effort must also be recognised. The oldest of the societies now existing for this purpose is the *Metropolitan Association for Improving the Dwellings of the Industrious Classes*, established in 1841, and incorporated in 1845. This Association is not strictly speaking a charity, although its operations are eminently charitable, for its business is conducted as a commercial undertaking, and its dividend is about 4½ per cent. per annum. The improved dwellings erected under its auspices are situated in various parts of the metropolis affording accommodation for about 4,000 persons. Similar in mode of operation, although less extensive, is the *St. Marylebone Association for Improving the Dwellings of the Industrious Classes*, incorporated in 1854. Still more important in its operations is the *Improved Industrial Dwellings Company*, established under the auspices of the Right Hon. the Lord Mayor, Sir Sidney H. Waterlow, who has always devoted much time and attention to the subject, and whose letters in the "Times" have been the means of obtaining for the scheme a large share of public sympathy and support. At a recent meeting of this company, which is an assured financial success paying a dividend of 5 per cent., it was stated that the number of persons occupying its dwellings was 5,056—2,675 above 16 years of age, and 2,381 children, while the number of different occupations followed by the tenants was 337. The wages earned by the tenants average about 1*l.* 8*s.* a-week. The rents range from 1*s.* 3*d.* to 2*s.* 3*d.* a-week, including all rates and taxes, but the tenants' names are duly entered in the rate-books, and they retain all rights of voting for local and national representatives. In all these cases the houses built have been chiefly situated in London. The blocks of model dwellings erected from the munificent bequests of the late Mr. Peabody, amounting in all to 500,000*l.*, have also furnished residences for a large number of persons, the donor's suggestion that a portion at least of the amount left might advantageously be devoted to the improvement of the dwellings of the poor having been acted on by the trustees. The first pile of buildings in Commercial Street, Spitalfields, was opened on the 29th of February, 1864, and the number of persons who took

possession was upwards of 200, including charwomen, monthly nurses, basketmakers, butchers, carpenters, firemen, labourers, porters, omnibus drivers, sempstresses, shoemakers, tailors, waiters, warehousemen, &c. The next groups of buildings erected under the first trust of 150,000*l.* were situated in Islington, Shadwell, Westminster, and Chelsea, providing accommodation for 498 families irrespective of the rooms of the superintendents and other officials. Under this trust there is another available site at Bermondsey. Under the second trust of 200,000*l.* estates have been secured at Brixton, Chelsea, and Southwark, the last-named property being that formerly held by the Magdalen Hospital, in the Blackfriars Road, and now occupied by an immense block of buildings well tenanted. The last portion of this princely benefaction consisting of 150,000*l.* will not be available until 1873, when it will be expended in the same way. As a proof of the economical way in which the fund is managed it is worthy of record that the office expenses for the administration of this vast capital are under 500*l.*, an example well worthy of imitation. These suburban estates will, to some extent, provide for the numerous householders who have been and will be rendered houseless by the progress of metropolitan improvements, a number easily to be estimated when it is stated that the census shows a decrease from 13,431 to 9,435 in the inhabited houses in the City between 1861 and 1871. Still more recently, however, another effort has been made to provide suburban residences for the families whose bread-winners can now reach their work in London by the penny workmen's trains, and 'a Workman's Town' is in course of erection at Wandsworth under the direction of the *Artisans', Labourers', and General Dwellings' Company, Limited.* The first stone of this estate, which will contain 1,200 dwellings, was recently laid by Lord Shaftesbury, and the plan on which it is to be built shows conclusively what a complete change has taken place since the days when labourers' and artisans' dwellings in London were only too truly described as being unfit for human habitations. The houses here built are to be thoroughly drained, constructed on sound principles and with good materials, and well supplied with water. School accommodation, a lecture hall, a recreation ground, and even a special railway station are to be provided for the inhabitants, in fact the design seems closely to resemble that recently put forward with far less hope of seeing it executed by Professor Ruskin. Truly, as Lord Shaftesbury said, when laying the stone of the estate, "There is nothing so economical as humanity, and whatever may be the cost at the outset good air, good water, and no overcrowding will be found the most economical and best means of developing the physical and moral energies." "The domiciliary condition of the people," his Lordship continued, "involves health, comfort, and happiness. It involves also contentment, and people who are contented always give a Government less trouble than when they are not." This, in a word, is the true argument in favour of sanitary improvement, and there are no better philanthropists

than those who, like the present Lord Mayor and the noble Earl just mentioned, are teaching the people that best of all lessons "How to help themselves," and are assisting them to provide themselves with a comfortable home, the first essential for the securing of domestic, social, or national happiness.

Another very needful provision in all large towns is that which Parliament has during the past session lent its aid to secure for the metropolis—a supply of pure water. Not only, however, in the houses of the people, but in the streets is it a matter of importance to obtain such a boon, and to this end the *Metropolitan Drinking Fountain and Cattle Trough Association* has, since 1859, been working with good effect. There are now more than 300 troughs and fountains under the care of the society in London, each of which is visited, cleansed, supplied with cups, and reported on once and often twice every week, and at all the water is kept constantly flowing. The cost of each fountain for repairs and water supply is stated to average about 10*l.* a-year; but the large cattle troughs, at which it has been calculated upwards of 1,200 horses and other animals drink daily, cost about 30*l.* a-year. This really useful work is carried on in a most economical way, and its influence on the public health and the comfort of the poorer wayfarers is considerable. In connection with it we have, too, an instance of a really satisfactory diversion of an ancient endowment for an object strictly consistent with its original intentions. Some two hundred years ago a sum of money was left by Sir Martin Bowes, then Lord Mayor, for the erection of conduits in the city, and this has been appropriated with the consent of the Charity Commissioners to the erection of a drinking fountain in Smithfield. At some future time it is possible that the municipal authorities may, as the Marquis of Westminster recently suggested, undertake this duty, and provide water as well as light, but until they do so it is a matter for satisfaction that voluntary effort supplies the obvious want.

As a fund closely connected with the foregoing we may mention the *Forest Fund*, recently established for the preservation of Epping Forest. Similar organizations have also been set on foot by public subscription to aid in keeping intact the open spaces around the metropolis—"the lungs of London" as they are not inappropriately termed. To realise the value of these metropolitan recreation grounds, it is only needful to spend a few hours in one of them on a Saturday half-holiday, when the happiness of the numberless children and the pleasant family groups speak unmistakably of the wisdom of thus enabling the denizens of the crowded courts and alleys to look on nature in her own domains at least once a week. Even the extemporized gardens at Battersea Park and Kennington are equally valuable, but it is difficult to understand the principle on which, when the admission to such places is free, a tax is placed upon the chairs dotted here and there, the revenue being claimed by the First Commissioner of Works. The provision of public parks and

gardens is, it is pleasant to note, becoming general at the present time in provincial towns as well as in London, and experience proves that no form of expenditure is better calculated to promote the public good. In the same way the erection of baths and washhouses is a noticeable sanitary improvement, and it is much to be wished that some of the funds recklessly bestowed upon so-called religious societies could be devoted to these objects.

To provide work for women and children is another branch of metropolitan charity which has received considerable attention of late years, and

Employment Societies

as they may be termed, in the absence of a better title, are becoming more numerous every day. Among those which aid the young in finding work, the various *Shoe-black Brigades* to which allusion was made in the 'Companion' for 1872, deserve prominent mention. Of a kindred nature is the *Rag-collecting Brigade* formed in 1866, on the basis of an older institution, the work allotted to the boys consisting in clearing parks, gardens, or houses of rubbish as well as rags, and the earnings being devoted to the boys' maintenance. In the streets of London another body of boys may now be seen at work cleansing the thoroughfares of refuse which they deposit in receptacles placed at certain distances, thus fulfilling the office of the parochial scavengers who in days gone by formed as regular a part of the machinery of City parishes as the beadle or clerk. Another very praiseworthy attempt to enrol the street arabs in orderly companies and transform them into useful members of society has been made by the Hon. Mrs. Glyn and others, who established the *Doorstep Brigade* in 1870, to employ boys of ten years of age and upwards in the discharge of certain humble domestic duties, such as cleaning doorsteps, &c. The money earned by the boys, about forty of whom are engaged, is devoted towards their maintenance. For women there are several valuable institutions the majority of which are designed to employ them in needlework. In some cases, such as the *East London Mission and Relief Society*, religious instruction is provided while the workers are engaged, but exception has been naturally taken to such a course owing to the risk of imparting a sectarian character to a work which demands the support of all. The *Institution for the Employment of Needlewomen*, founded in 1860, is now located in Bermondsey, a district where it is of the utmost value, and it is to be wished that similar societies could be established in all the crowded quarters. Institutions for ladies, such as the *Gentlewomen's Self-help Institute*, and the *Ladies' Printing Offices and Home* also deserve notice, their number being far too small and their resources too limited to enable them to carry out the large amount of work which lies ready to hand, and to which the crowded advertisements in our papers from ladies wanting employment—the real 'agony columns' of the daily journals—so abundantly testify. The lack of public

support in these cases can, we fear, only be ascribed to the fact that the benevolent, although always willing to give, are too ready to lend aid to those funds for which a persistent system of begging is kept up, instead of seeking out those societies which really deserve help and confer the largest benefit on the community. It cannot too often be remembered that to aid the industrious is the highest wisdom, on the old principle that prevention is better than cure, and the provision of work for women and children is therefore one of the noblest efforts of modern philanthropy although only a few hundred pounds are annually expended on it.

When, however, employment is not to be found,—and the vast increase in the population of this country, coupled with the saving of labour by the mechanical improvements introduced of late years, not only in agriculture but even in the transactions of commercial business renders it inevitable that the unemployed should always form an important section of the people—the opening out of other fields of labour in distant countries becomes a natural solution of the difficulty caused by the over-crowded labour market, and here again public charity steps in with its

Emigration Funds and Clubs.

At the head of these stand the *British and Colonial Emigration Society*, founded in 1867, and supported by City Meetings; the *East London Family Emigration Fund*, established in 1868; and the *Clerkenwell Emigration Society*, a recent organization. The last-named society would be more correctly described as a club, inasmuch as each person person wishing to leave England pays a weekly subscription to the fund, and every effort is made by the chairman, the Rev. A. Styleman Herring, who has been the chief promoter of the undertaking, to look after the emigrants when they reach their destination, and to keep up their interest in the mother country and the friends left behind. With an annual income of considerably under 1,000*l.*, this society has aided nearly three thousand persons to find employment in Canada and elsewhere, and the reports of their success are most encouraging. Yet another plan has been devised by Mr. Nugent, the Roman Catholic Chaplain of Liverpool Borough Gaol, who has himself taken out a party of orphans from the industrial school at the great seaport, and proposes to establish homes for them in America, with agencies for furnishing them with employment. In this case the vestry supplied each child with a box of clothes, and paid 8*l.* towards its travelling expenses, the remainder of the cost being defrayed by voluntary contributions. As all these children were a direct cost to the ratepayers this proceeding would seem to indicate a wise economy on the part of the vestry not unworthy of imitation in London. For the 'little gutter girls' of the metropolis, Miss Maria S. Rye, whose name is inseparably associated with emigration and other schemes for the benefit of the poor, has also provided an emigration fund, first placing them in a house at Peckham where, to use her own words,

"they will get three months' training in housewifely ways and womanly knowledge, and be then drafted to our Western Home, Niagara, Canada, where there are now 900 respectable homes offered by persons willing and waiting to take and train such children so that they may become useful members of society, and 'helps' to the nation of their adoption." The reader will probably remark that in the face of the oft declared scarcity of domestic servants at home it is an unwise act to export even the raw material to the colonies, but then it must be remembered that English mistresses will scarcely undertake the work of training which Miss Rye says the Canadian employers will so readily perform. Nor does the agency for this purpose end here. To improve the condition of emigrants on board ship, especially of those whose passages are wholly or partly paid by Government, and who are not always cared for as they should be, the *British Ladies' Female Emigrant Society* steps in, and as far as its limited income (about 600*l.*) will allow, sends out in the various emigrant ships matrons, ten of whom are in constant employment, to tend the sick and to look after the women and children. By the aid of these various organisations the number of emigrants from England has largely increased during the past three years, although the total number of emigrants from the United Kingdom had diminished during 1871, the falling off being from Scotland and Ireland. If the resources were added to, there can be little doubt that the result would be a direct benefit not only to the persons thus enabled to earn a livelihood which they cannot obtain at home, but to the nation generally through the relief to the poor-rates.

Turning, in the last place, to what are termed the religious societies we shall find it convenient to sub-divide them into two classes, the first and smaller of which may be described as

Book and Tract Societies.

Of these there are ten in the metropolis which not only aid in the circulation of religious books and tracts, but also actually publish them. The oldest institution, the *Society for Promoting Christian Knowledge*, issues bibles, prayer books and tracts, besides carrying on the ordinary publishers' work as far as the issue of books of lessons and tales is concerned, and it also provides a monthly magazine designed for the higher classes of society. Its sale of books reaches three millions a year, and of tracts between three and four millions; and its income, exclusive of trade receipts, is nearly 40,000*l.* The *British and Foreign Bible Society*, established in 1804, has aided in the translation of the Scriptures into 200 languages or dialects and it circulates them without note or comment; its income, including the receipts from sales, being about 180,000*l.* *The Religious Tract Society*, which is undenominational, covers a still larger field, its circulation of books and tracts numbering nearly fifty millions of separate publications. The extensive character of its publishing trade may be gathered from the fact that,

while its annual receipts are about 120,000*l.*, only about 14,000*l.* is derived from subscriptions, the remainder being produced by sales. The work of this Society includes, to a great extent, that performed in former days by the Society for the Diffusion of Useful Knowledge, its magazines, the 'Leisure Hour' and 'Sunday at Home' having attained a circulation and popularity seldom equalled in the history of literature. With these two societies in existence, the one specially in connection with the Established Church, and the other working in harmony with all the chief religious bodies, it is difficult to understand the necessity which exists for the minor organizations described as the *Christian Book Society*, the *Monthly Tract Society*, and the *Weekly Tract Society*, all involving the cost of separate offices, and undertaking the publishing work already performed by the older institutions without the slightest gain to the public, or, as has been more than once asserted, without profit to any but the officers, editors, authors, and printers. The *Pure Literature Society*, on the other hand, has a distinct and useful work to perform, in gathering together a list of magazines and books suitable for circulation from the catalogues of other societies and publishers, and in supplying them at reduced prices for distribution. The need for such a society is evidenced by the growth of what, to use no stronger term, is decidedly impure literature, including not merely the publications, unhappily far too numerous, possessing a directly vicious and immoral tendency, but those which are even more injurious owing to the plausible veil thrown over their worst features. That papers openly traducing the Royal Family and others which come within the terms of Lord Campbell's Act should attain extensive circulation is a fact pregnant with matter for the serious consideration of legislators and philanthropists; but, as repression and prosecution can never have any real effect as long as a demand exists, the real cure for the evil lies in the encouragement of the work undertaken by such bodies as the Pure Literature Society. The *Book Hawking Union*, in connection with the Church of England, goes a step further, and sends *colporteurs* to the houses of the poor, thus completing the operation; but the most satisfactory way of carrying out this latter task is by voluntary agency. The work of the *Prayer Book and Homily Society* remains to be noticed; but the natural conclusion of an unprejudiced observer will be, that as very similar, if not the same, work is accomplished by the Society for Promoting Christian Knowledge, its elimination from the list of societies would entail no real loss.

While, however, this useless multiplication of agencies is an obvious flaw in the working of the societies just reviewed, it is still more noticeable in the

Missionary and Religious Societies,

which form by far the larger group in this division of our subject. Their name is veritably legion,—for heathen at home and heathen

abroad, for Jews and Turks, for Assyrians and West Indians, the various religious bodies are labouring with a zeal which sometimes outruns their discretion, inasmuch as the same ground is not unfrequently occupied by missionaries from different institutions. This result must perhaps be regarded as inevitable in the face of a divided Christendom, but it is none the less to be deplored, not merely because it involves a double expenditure of men and money but because it presents to those who are the subjects of missionary effort that most painful of all spectacles—a house divided against itself. Of the home societies the most important are those for the supply of additional clergy in populous parishes, for which the Church of England has two chief organizations—the *Additional Curates' Society*, established in 1837, with an annual income of about 32,000*l.*, and the *Church Pastoral Aid Society*, formed in the previous year, with an income of about 50,000*l.* The latter of these societies also assists in the provision of lay-helpers for crowded districts, a work to which the *Scripture Readers' Association* is entirely devoted, while the *Parochial Mission Women's Fund*, a result of the recent movement for the revival of female agency, supports visitors mainly drawn from the same class as the persons among whom they labour. Occupying more general ground, and supported indiscriminately by Churchmen and Nonconformists, is the *London City Mission*, a society supplying nearly 400 agents, and expending a sum of nearly 40,000*l.* a-year. In addition to these the Baptists, the Wesleyans, the Primitive Methodists, and other minor sects, have their special societies, all devoted to the general work of providing preachers, teachers, and visitors in our large cities. Of the foreign missionary societies, the oldest is the *Society for the Propagation of the Gospel in Foreign Parts*, founded in 1701, and maintaining about 450 clergymen and 1,000 lay-teachers in all parts of the world. Its annual receipts range from 90,000*l.* to 100,000*l.* a-year. The *Church Missionary Society's* income is still larger, reaching, in the year ending March, 1872, the enormous sum of nearly 150,000*l.* Nor are the other Christian communities less liberal, the most extensive of their institutions being the *Wesleyan Missionary Society* which raises annually about 150,000*l.*, and the *London Missionary Society* with an income of about 110,000*l.* For the conversion of the Jews considerable sums are expended both by Churchmen and Nonconformists, the former giving about 35,000*l.* a-year, and the latter about 8,000*l.* For the promotion of Protestantism among the Irish Roman Catholics, the Church of England raises nearly 25,000*l.* a-year, and the Nonconformists about 4,000*l.* In addition to these there are many subsidiary bodies devoted to the same objects, and a minor division engaged in the various fields of Christian polemics, or, in other words, in the promotion of certain special views with which their supporters are identified. The union of Church and State, for instance, has the *Church Institution* for its defence, and the *Liberation Society* to undermine it. The practices of the so-called "ritualistic" party are defended by the *English Church Union*,

and are attacked by the *Church Association.* Rome has its agencies, although few avowedly for proselytising purposes, and Protestantism keeps up five separate organizations to subvert it; in fact, in all these cases a direct system of offensive and defensive proceedings is maintained year after year, and the warfare of the managers is conducted on what may fairly be termed 'scientific principles.' This course of proceeding, is, however far more logical than the system adopted in another instance—that of the movement for promoting the adoption of free and unappropriated seats in churches in opposition to the pew system, for here we find two distinct societies at work, with exactly the same objects, thus expending on double machinery and offices funds which in the aggregate would be far too small to promote the real object in view. Such a system can only result in the injury of the cause which those who support the two institutions have at heart, and can scarcely fail to lead practical men, to withhold their subscriptions as long as they see that they are likely to be expended on separate interests instead of on the real work in hand.*

This useless multiplication of agencies is then an unquestionable evil, but even where no such competition exists it is evident on looking through the balance-sheets of the religious societies that the proportion of the funds devoted to the salaries of secretaries and deputations is far too large, while it is sometimes very difficult to arrive at a clear idea of the expenditure on this head, the figures being so arranged that they fail to show the actual percentage of the official outlay as compared with the income. The truth is that in these cases, as in many other kindred instances afforded by limited liability companies, the public too readily accept statements supplied to them on the faith of the auditors' names, while the signatures of such officials only prove that the items are correct according to the vouchers furnished for their inspection without the slightest reference to the necessity for or the justice of this or that portion of the expenditure. The great evil underlying the financial management of these institutions is thus proved to be the irresponsibility of the honorary managers. These gentlemen, very few of whom have the time to go into details, are compelled to accept the facts and figures of the clerks, and look rather to the elaboration of details for the reports than to the cost of obtaining the results which is not unfrequently out of all proper proportion to their value. There are of course cases in which committees undertake direct personal supervision, but there are too many where either from sheer lack of moral courage, or other causes, philanthropists allow their names to be used to float undertakings which are of questionable benefit to the public, and the management of which too often becomes a scandal to religion and society. On the strength of high sounding names

* Since this paper was written, the writer has learnt with satisfaction that a scheme for the union of these societies has received the sanction of their respective councils, and is likely to be adopted.

benevolent persons are induced to subscribe to funds which owe their existence entirely to the wants of an individual who secures for himself the post of secretary, and who, as the records of the police courts during the past year prove, not unfrequently escapes punishment owing to some flaw in the evidence while his moral guilt is certain. As an illustration of the manner in which such proceedings are carried on we may refer to the so-called *Free Dormitory Association*, recently exposed, a body which, as far as administration was concerned, was concentrated in one person who was secretary, committee, and treasurer, and who absconded in consequence of the exposure brought about and the charge instituted in the police court by the Charity Organization Society. The late secretary had obtained money amounting to over 3,000*l.* in charitable subscriptions; he had asserted that he had paid large sums for "free beds" for persons at common lodging-houses, but instead of paying 240*l.* at one place, as he had set down, it was found he had paid only 4*l.* 10*s.*; and in another place, where he had stated he had paid 218*l.* 2*s.* 8*d.*, he had not paid more than 40*l.* Then he had put down to the credit of the charity 120*l.* as received from the dormitories established by the "association," but it was elicited from the men in charge of those places that, let out as they were as common lodging-houses, about 1,000*l.* a year was obtained from them. One of the operations of the association was an "orphanage." In the orphanage when Cox, the secretary, absconded, five children were found, and three persons to look after them. So far from being orphans three of the children had mothers or fathers, one an aunt able to keep him, and the fifth was the only orphan. This child was provided for when the Charity Organization Society exposed the affair, and the others were sent home to their friends. It is much to be regretted that in this case the offender escaped, owing to his having been admitted to bail on his first examination. It is indeed only of late years that any machinery has been at work for the purpose of detecting such cases, and it is a matter for satisfaction that the Charity Organization Society has at last undertaken the duty. If a public prosecutor is wanted for general purposes there can be little question that the metropolitan charities would form by no means an unimportant part of his work, and that the performance of his functions would prove a direct boon to the public. But even when the utmost vigilance is exercised from without, the real remedy for waste and the true means of preventing defalcations are only to be supplied by the action of the subscribers themselves. Those who supply the money have the right to demand an explicit account of its outlay, and it cannot be too often reiterated that to give subscriptions for any object, no matter how excellent it may be in itself, without ascertaining that they are fairly and economically spent is not only a great mistake but a direct contradiction of the highest of all philanthropic principles. No other course can be really effectual, short of actual supervision and audit by a government official, and as the difficulties in the way

of the latter proceeding are considerable the sooner the supporters of all our institutions and societies bestir themselves the better. If some short Bill could be introduced into Parliament for the compulsory registration of all charities on the plan adopted in regard to friendly societies, coupled with an enactment requiring treasurers in every case to supply an annual statement of the outlay for salaries and office expenses, it would be a decided step in the right direction, as it would not only tend to check excessive expenditure, but would also give the public some guarantee as to the *bona fides* of any particular association or fund, as of course no society would be placed on the list without the supply of satisfactory references from its officials. If such a list as this were generally accessible it would be impossible for gross cases of swindling of the type of those recently exposed to pass unchecked, as persons unable to furnish certain well defined proofs of their position and claims to public confidence would be at once exposed. Further than this, however, greater caution is needful in regard to the formation of new funds. If the permission to insert names on lists of committees or patrons were less readily given, and were never accorded without due investigation, a salutary reform would immediately be effected. As an illustration of the necessity for caution in this respect we may point to a case which some years since came under the notice of the writer of this paper. A new society was announced as in course of formation. A list containing the names of some persons generally known to be favourable to the principles of the movement was prepared and sent out with an invitation to other individuals to take part in the proceedings at a preliminary meeting, and by this means a respectable assembly was gathered together. The result proved that many of the persons present came on the faith of the names on the skilfully worded paper, the society was duly formed, and its 'promoter' was installed as secretary. No absolute fraud bringing any one within the action of the law had been committed, but the object of the whole proceeding was evident, and another addition was made to the already too long list of metropolitan charities. Such cases could doubtless be multiplied without difficulty, and thus we have distinct proof of the need for a radical alteration not only in the working of existing charities, but in the proceedings for the formation of new funds. That the work of check and control is a great one we readily allow, but it will admit of no delay, and setting aside all questions as to the duty of thus investigating the subject from a religious point of view it is as a matter of patriotic feeling incumbent upon all who have the time and opportunity to lend their aid, not only in exposing cases where absolute waste exists, but in preventing undue expenditure.

CHARLES MACKESON.

TABLE OF ALL THE PUBLIC GENERAL ACTS

PASSED IN THE FOURTH SESSION OF THE TWENTIETH PARLIAMENT OF GREAT BRITAIN AND IRELAND,

35 AND 36 VICTORIÆ.

(The Acts are given in the order in which they were passed, the number denoting the chapter. An Abstract of those Acts distinguished by an asterisk is given in the pages following this table, which contain a classified epitome of the more important statutes passed during the year.)

1. An Act to apply £5,411,099 3*s.* 3*d.* out of the Consolidated Fund to the service of the years ending the 31st of March, 1871, 1872, 1873.

2. An Act to extend and explain the Law relating to Loans for purposes connected with the Relief of the Poor.

(Extends limits of expenditure for building schools in the Metropolis imposed by section 16 of 14 & 15 Vict. c. 105.
Applies section 14 of 30 & 31 Vict. c. 106 to the Metropolis.
Explains section 5 of 32 & 33 Vict. c. 45.)

3. An Act for punishing Mutiny and Desertion, and for the better payment of the Army and their Quarters.

(Applies 26 & 27 Vict. c. 57; Regimental Debts.
„ Acts relating to Military Prisons.)

4. An Act for the Regulation of Her Majesty's Royal Marine Forces while on shore.

5. An Act to amend the Charter under which the Governor and Company of the Bank of Ireland is incorporated.

(Reduces the number of Directors.)

6. An Act to amend The Public Parks (Ireland) Act, 1869.

(Amends 32 & 33 Vict. c. 28; Public Parks, Ireland.)

*7. An Act to amend the Law respecting the borrowing of Money by County Authorities for County Buildings.

(Amends 7 Geo. 4, c. 63; Loans for County Buildings.
Extends time of borrowing under 7 Will. 4, and 1 Vict., c. 24; 2 & 3 Vict. c. 69; and 10 & 11 Vict. c. 28.)

*8. An Act to provide for the Resignation of Deans and Canons.

9. An Act to continue the Appointment and Jurisdiction of the Commissioners for the Sale of Incumbered Estates in the West Indies.

(Continues Appointment and Jurisdiction of Commissioners under 17 & 18 Vict. c. 117, as amended by 21 & 22 Vict. c. 96).

*10. An Act to extend the provisions of the Acts relating to Marriages in England and Ireland, so far as they relate to Marriages according to the usages of the Society of Friends.

(Amends 23 & 24 Vict. c. 18; Quakers' Marriages.
Extends 6 & 7 Will. 4, c. 85; Marriages (England).
„ 7 & 8 Vict., c. 81; Marriages (Ireland).)

11. An Act to apply the sum of £6,000,000 out of the Consolidated Fund to the service of the year ending the 31st of March, 1873.

*12. An Act to amend an Act of the fourth and fifth years of King William the Fourth, chapter twenty-four, intituled "An Act to alter,

amend, and consolidate the laws for regulating the pensions, compensations, and allowances to be made to persons in respect of their having held civil offices in His Majesty's service."

(Amends 4 & 5 Will. 4, c. 24, by extending section 20 to the Colonies.)

13. An Act to amend The Irish Church Act, 1869, so far as respects a Vacancy in the office of Commissioner of Church Temporalities in Ireland.

(Amends 32 & 33 Vict. c. 42, as to vacancy in office of Commissioner.)

14. An Act for the Alteration of Boundaries of Dioceses.

*15. An Act for the Regulation of the Royal Parks and Gardens.

(Applies the Summary Jurisdiction Acts.)

16. An Act to amend the Cattle Disease (Ireland) Act Amendment Act, 1870.

(Amends 29 & 30 Vict. c. 4, as amended by 33 & 34 Vict. c. 36.)

17. An Act to amend the Laws for the Regulation of Charitable Loan Societies in Ireland.

(Amends 6 & 7 Vict. c. 91; Charitable Loan Societies (Ireland).)

18. An Act for regulating Inquiries by the Board of Trade.

(Removes doubts under 34 & 35 Vict., c. 113; Metropolis Water, &c.)

19. An Act for the Prevention and Punishment of Criminal Outrages upon Natives of the Islands in the Pacific Ocean.

(Act to take effect in the Australian Colonies.)

20. An Act to grant certain Duties of Customs and Inland Revenue and to alter other Duties.

(Customs Duties on Tea continued.)

Extends 16 & 17 Vict., c. 107, section 44 (Customs), to articles of Foreign Manufacture purporting to be manufactured in the United Kingdom.

Exempts husbandry carts and horses used on Sunday, &c., from Duty under 32 & 33 Vict. c. 14 (Excise).

(Amends 33 & 34 Vict. c. 97 (Stamps), as to Navy Bills.)

Applies provisions of existing Acts relating to Income Tax.

Removes doubts as to interpretation of "Horse-dealer" in 32 & 33 Vict., c. 14.)

*21. An Act to amend the Law relating to Reformatory and Industrial Schools.

(Extends power of Prison authority under section 28 of 29 & 30 Vict. c. 117 (Reformatory Schools); and under section 12 of 29 & 30 Vict. c. 118 (Industrial Schools).

Applies and amends section 27 of 33 & 34 Vict., c. 75 (Elementary Education), as to Industrial Schools.)

*22. An Act to repeal an Act, intituled "An Act to restrain Party Processions in Ireland."

(Repeals 13 & 14 Vict., c. 4; Party Processions (Ireland).)

23. An Act for amending the Law relating to the Harbours and Coasts of the Isle of Man.

(Incorporates in part 10 & 11 Vict. c. 27; Harbours, &c., Clauses.)

Powers of borrowing under 29 & 30 Vict. c. 23; Isle of Man Customs, &c.

(Repeals 11 Geo. 3, c. 52; 54 Geo. 3, c. 143; 3 & 4 Vict. c. 63; 23 & 24 Vict., c. 56; sections 8 and 9 of 26 & 27 Vict. c. 86;

and part of section 10 of 29 & 30 Vict. c. 23; Isle of Man Harbours.)

24. An Act to facilitate the Incorporation of Trustees of Charities for Religious, Educational, Literary, Scientific, and Public Charitable Purposes, and the Enrolment of certain Charitable Trust Deeds.

(Saves 9 Geo. 2, c. 36; Mortmain.
Amends 29 & 30 Vict. c. 57; Charitable Trusts.)

25. An Act to amend the Juries Act (Ireland), 1871.

(Amends and repeals in part 34 & 35 Vict. c. 65; Juries (Ireland).)

26. An Act to amend the practice of the Courts of Law with respect to the Review of the Decisions of Justices.

27. An Act to amend the Elementary Education Act, 1870.

(Amends and extends 33 & 34 Vict. c. 75, as to borrowing of money and purchase of lands for offices.)

28. An Act to amend the Practice and Procedure of the Crown Side of the Court of Queen's Bench in Ireland.

29. An Act to amend the Act of the Session of the twenty-eighth and twenty-ninth years of the reign of Her present Majesty, chapter one hundred and thirteen, intituled "An Act to authorize the Payment of Retiring Pensions to Colonial Governors."

(Amends 28 & 29 Vict., c. 113, as to rates of Pension.)

30. An Act to suspend the compulsory Operation of the Chain Cables and Anchors Act, 1871.

(Suspends operation of 34 & 35 Vict. c. 101, until 1st of January, 1873, and continues in force 27 & 28 Vict. c. 27, until that date.)

31. An Act to amend the several Acts relating to the Drainage and Improvement of Lands in Ireland.

(Amends 5 & 6 Vict. c. 89;
" 16 & 17 Vict. c. 130;
" 10 & 11 Vict. c. 32;
" 26 & 27 Vict. c. 88;
} Drainage, &c. (Ireland).)

32. An Act to explain and amend the Landlord and Tenant (Ireland) Act, 1870, so far as relates to the Purchase by Tenants of their Holdings.

(Explains and amends 33 & 34 Vict. c. 46, as to purchase by tenants of their holdings.)

*33. An Act to amend the Law relating to Procedure at Parliamentary and Municipal Elections.

(Applies and amends Acts to the Representation of the People, to the Registration of Voters, to Municipal Corporations and Elections, and to the Police, Improvement, and Local Government of Towns in England, Scotland, and Ireland.
Repeals Acts (wholly or in part) relating to the above matters, as set forth in the Fourth, Fifth, and Sixth Schedules.)

34. An Act to amend the Law relating to the Election of Directors of the Bank of England.

(Amends section 52 of 8 & 9 Will. 3, c. 20; Bank of England Directors.)

*35. An Act for the Amendment of the Act of Uniformity.

(Amends 14 Charles 2, c. 4; Act of Uniformity.)

*36. An Act to render it unlawful to demand any Fee or Reward

for the Celebration of the Sacrament of Baptism, or the Registry thereof.

37. An Act to apply the sum of £8,000,000 out of the Consolidated Fund to the service of the year ending the 31st of March, 1873.

*38. An Act for the better Protection of Infant Life.

(Applies the Summary Jurisdiction Acts.)

39. An Act for amending the Law in certain cases in relation to Naturalization.

(Amends 33 & 34 Vict. c. 14; Naturalization.)

40. An Act for continuing the Bishops Resignation Act, 1869.

(Continues (for three years) 32 & 33 Vict. c. 111.)

*41. An Act to amend the Life Assurance Companies Acts, 1870 and 1871.

(Amends 33 & 34 Vict. c. 61; } Life Assurance Companies.
„ 34 & 35 Vict. c. 58; }
Applies in part 25 & 26 Vict. c. 89; Companies' Act, 1862.)

42. An Act to amend an Act passed in the session of Parliament held in the sixteenth and seventeenth years of the reign of Her present Majesty for enabling Grand Juries in Ireland to borrow money from private sources on the security of Presentment, and for transferring to counties certain works constructed wholly or in part with public money.

(Amends 16 & 17 Vict. c. 136; Grand Juries (Ireland).)

43. An Act to enable the Board of Trade to dispense with certain provisions of the Tramways Act, 1870, in respect of certain Provisional Orders.

(Dispenses with certain provisions of the Tramway Act, 1870 (33 & 34 Vict. c. 78), as to certain Tramways.)

*44. An Act to abolish the office of Accountant General of the High Court of Chancery in England, and to amend the law respecting the investment of money paid into that Court, and the security and management of the moneys and effects of the suitors thereof.

(Applies 16 & 17 Vict. c. 59; Stamp Duties.
„ section 33 of 24 & 25 Vict., c. 98; Forgery.
„ 15 & 16 Vict. c. 28; Public Works and Buildings.
„ section 23 of 28 & 29 Vict., c. 48; Courts of Justice Building Act, 1865.

Repeals (with Savings) the following Enactments relating to the Court of Chancery:

12 Geo. 1, c. 32, 33; 32 Geo. 3, c. 42; Suitors Money, &c.
36 Geo. 3, c. 52, in part; 37 Geo. 3, c. 135; Legacy Duties, &c.
52 Geo. 3, c. liv.; 54 Geo. 3, c. 14; 55 Geo. 3, c. lxiv.; 58 Geo. 3, c. lxxx.; 59 Geo. 3, c. xxvii.; and 3 Geo. 4, c. 69, in part; Officers, &c., in Chancery.
3 & 4 Will. 4, c. 73, in part; 5 & 6 Will. 4, c. 45; 6 & 7 Will. 4, c. 5, 82; and 4 & 5 Vict. c. 18; Slave Compensation.
5 Vict. c. 5, in part; Administration of Justice.
9 & 10 Vict. c. 81; Income Tax (Offices).
10 & 11 Vict., c. 96, s. 3; Trust Funds, &c.
15 & 16 Vict. c. 80, s. 59; Court of Chancery.
15 & 16 Vict. c. 87, in part, and 16 & 17 Vict., c. 98 (except s. 11); Suitors in Chancery.
30 & 31 Vict. c. 87, ss. 11, 12; Chancery Officers.
32 & 33 Vict. c. 91, ss. 4—7; Courts of Justice (Salaries and Funds).)

45. An Act to carry into effect a Treaty between Her Majesty and the United States of America.

(Suspends Acts and Laws at variance with the Articles of the Treaty.)

46. An Act to make further provision for Arbitration between Masters and Workmen.

(Amends 5 Geo. 4, c. 96; Masters and Workmen.

Applies 30 & 31 Vict., c. 141; Masters and Servants.)

47. An Act to amend the Act of the thirtieth and thirty-first years of Victoria, chapter eighty-five, intituled "An Act to include the whole of the Burgh of Galashiels within the County, Sheriffdom, and Commissariot of Selkirk."

(Amends (and repeals, so far as is inconsistent) 30 & 31 Vict. c. 85.

Applies 23 & 24 Vict. c. 105; Prisons (Scotland) Administration.)

48. An Act to amend the Law relating to the defining of Boundaries of Counties and other Divisions and Denominations of Land in Ireland.

(Amends 17 & 18 Vict. c. 17, 20 & 21 Vict. c. 45, 22 & 23 Vict. c. 8, and 34 & 35 Vict. c. 106; Boundaries (Ireland).)

*49. An Act to provide for the free Use of Seats in certain Churches.

50. An Act to protect Railway Rolling Stock from Distraint when on hire.

*51. An Act for amending the Law relating to the Salaries of Judges.

(Amends Law relating to Judges Salaries.)

52. An Act to regulate the summoning of Grand Juries in Middlesex.

53. An Act to confirm an Agreement for the purchase by the Metropolitan Board of Works of certain land adjoining Victoria Park, and for the appropriation of such land as part of the same Park.

54. An Act to amend the Public Schools Act, 1868.

(Amends 31 & 32 Vict. c. 118.)

55. An Act for making better provision for the erection of Lighthouses on the Great Basses Rock, and on the Little Basses Rock, in the colony of Ceylon.

Applies 17 & 18 Vict. c. 104, and 18 & 19 Vict. c. 91; Merchant Shipping.

(Amends and repeals in part 32 & 33 Vict. c. 77; Basses Lights.)

56. An Act to settle an annuity on the Honourable Blanche Julia Countess of Mayo, in consideration of the eminent services of the late Earl of Mayo as Viceroy and Governor General of India.

57. An Act for the Abolition of Imprisonment for Debt in Ireland, and for the Punishment of fraudulent Debtors, and for other purposes relating thereto.

(Applies 20 & 21 Vict. c. 60, and 35 & 36 Vict. c. 58; Bankruptcy (Ireland).

„ 16 & 17 Vict. c. 113; Common Law Procedure (Ireland).

„ 14 & 15 Vict. c. 57, and 27 & 28 Vict. c. 99; Civil Bill Courts (Ireland).

„ 30 & 31 Vict. c. 44; Court of Chancery (Ireland).

„ 22 & 23 Vict. c. 17; Vexatious Indictments.

„ sections 88, 89, of 3 & 4 Vict. c. 108; Municipal Corporations (Ireland). Imprisonment for Debt (Ireland).)

Repeals section 1 of 11 & 12 Vict. c. 28.

58. An Act for the amendment of the Law of Bankruptcy in Ireland.

(Amends and in part repeals 20 & 21 Vict. c. 60; Irish Bankruptcy and Insolvency Act, 1857.
Amends section 60 of 30 & 31 Vict. c. 129; Chancery and Common Law Officers (Ireland) Act, 1867.
Applies 22 Vict. c. 26; Superannuation Act, 1859.
Saving for partnerships, &c., registered under Companies Act, 1862.
Applies certain provisions of 4 & 5 Will. 4, c. 92; Abolition of Fines and Recoveries (Ireland).
Applies 34 & 35 Vict. c. 65; Juries (Ireland).
Abolishes Jurisdiction of Quarter Sessions in matters of Insolvency.
Extends provisions of 24 Geo. 3, sess. 2, c. 26; House of Commons (Elections), to Cases of Bankruptcy.)

59. An Act to amend Paragraph Three of the Second Schedule of the Elementary Education Act, 1870.

(Amends 33 & 34 Vict., c. 75; Elementary Education.)

*60. An Act for the better prevention of Corrupt Practices at Municipal Elections, and for establishing a Tribunal for the trial of the validity of such Elections.

(Applies section 7 of 26 & 27 Vict. c. 29; Corrupt Practices.
„ 31 & 32 Vict. c. 125; Parliamentary Elections Act, 1868.
Repeals sections 54 to 56 of 5 & 6 Will. 4, c. 76; Municipal Corporations.
„ sections 9 to 14 of 22 Vict. c. 35; Municipal Elections.
„ 90, 91, of 3 & 4 Vict. c. 108; Municipal Corporations (Ireland).)

*61. An Act to regulate the use of Steam Whistles in certain Manufactories.

(Applies Sanitary Act, 1866.
„ Summary Jurisdiction Act, 1848.
„ Petty Sessions (Ireland) Act, 1851.)

62. An Act to amend and extend the provisions of the Law of Scotland on the subject of Education.

(Repeals Act of 1696, 43 Geo. 3, c. 54, and 24 & 25 Vict. c. 107; Schools and Schoolmasters (Scotland), so far as inconsistent with provisions of Act.
Amends 1 & 2 Vict. c. 87; Schools, &c.
Applies Industrial Schools Act, 1866; Lands Clauses (Scotland) Act, 1845; Commissioners Clauses Act, 1847; and Summary Proceedings (Scotland) Act, 1854.)

63. An Act for further promoting the Revision of the Statute Law by repealing certain Enactments which have ceased to be in force or have become unnecessary.

(Repeals (with Savings) the Enactments described in the Schedule.)

*64. An Act for making provision for facilitating the Manœuvres of Troops to be assembled during the ensuing Autumn.

(Applies Mutiny Act and Articles of War.
„ Summary Jurisdiction Act, 1848.)

65. An Act to amend the Bastardy Laws.

(Amends and in part repeals 7 & 8 Vict. c. 101, and 31 & 32 Vict. c. 122; Poor Law Amendment Acts.)

66. An Act to amend the Royal Military Canal Act, 1867.
(Amends 30 & 31 Vict. c. 140; Royal Military Canal.)

67. An Act for making further provision respecting the application of the Revenues of Greenwich Hospital.
(Extends section 20 of 28 & 29 Vict. c. 89; Greenwich Hospital.)

68. An Act to make provision for defraying the expenses of building Barracks and otherwise providing for the Localization of the Military Forces.
(Applies Lands Clauses Acts, 1845, 1860, and 1869.
,, Lands Clauses (Scotland) Act, 1845.
,, Railways (Ireland) Acts, 1851, 1860, and 1864.)

69. An Act for constituting a Local Government Board in Ireland, and vesting therein certain functions of the Lord Lieutenant, the Privy Council, and the Chief Secretary to the Lord Lieutenant, concerning the Public Health and Local Government, together with the powers and duties of the Commissioners for administering the Laws for the Relief of the Poor in Ireland.
(Vests in the Board constituted under this Act the powers, &c., of the Poor Law Commissioners, and those vested in the Lord Lieutenant or the Privy Council by the following enactments; viz.,
17 & 18 Vict. c. 103; Towns Improvement.
29 & 30 Vict. c. 90; Sanitary Act, 1866.
28 & 29 Vict. c. 75; Sewage Utilization Act, 1865 (as applied to Ireland).
18 & 19 Vict. c. 121; Nuisances Removal Act, 1855 (as applied to Ireland).
18 & 19 Vict. c. 116; Diseases Prevention Act, 1855 (as applied to Ireland).
23 & 24 Vict. c. 77; Nuisances Removal and Diseases Prevention Amendment, 1860 (as applied to Ireland).
34 & 35 Vict. c. 109; Local Government (Ireland).
31 & 32 Vict. c. 115; Sanitary Act Amendment, 1868 (as applied to Ireland).
32 & 33 Vict. c. 115; Sanitary Loans Act, 1869 (as applied to Ireland).
23 Vict. c. 26; Common Lodging House Act, 1860.
19 & 20 Vict. c. 98; Burial Grounds.
23 & 24 Vict. c. 76; Burial Grounds Amendment Act.)

70. An Act to make better provision respecting certain Fees payable to the Law Officers of the Crown for England.

71. An Act to authorize advances to the Public Works Loan Commissioners for enabling them to make Loans to School Boards in pursuance of the Elementary Education Act, 1870.
(Recites section 57 of 33 & 34 Vict. c. 75; Elementary Education Act, 1870.)

72. An Act to confirm a certain Provisional Order made under an Act of the fifteenth year of Her present Majesty, to facilitate arrangements for the Relief of Turnpike Trusts.
(Confirms Provisional Order made under 14 & 15 Vict. c. 38.)

*73. An Act to amend the Merchant Shipping Acts and the Passenger Acts.
Amends 17 & 18 Vict. c. 104, 18 & 19 Vict. c. 91, and 34 & 35 Vict. c. 110; Merchant Shipping.

Amends 18 & 19 Vict. c. 119, and 26 & 27 Vict. c. 51; Passengers.
„ 34 & 35 Vict. c. 101; Chain Cables and Anchors.
Applies 26 & 27 Vict. c. 69; Officers of Royal Naval Reserve.)

*74. An Act to amend the Law for the prevention of Adulteration of Food and Drink and of Drugs.

(Applies 31 & 32 Vict. c. 121; Pharmacy Act, 1868.
„ 33 & 34 Vict., c. 26; Sale of Poisons (Ireland).
„ 23 & 24 Vict. c. 84; Adulteration of Food, &c.)

75. An Act to provide for the Appointment of Commissioners in the Channel Islands, and also in the City of Dublin and its vicinity, to take Affidavits to be used in the Superior Courts of Common Law and other Courts in Ireland.

76. An Act to consolidate and amend the Acts relating to the Regulation of Coal Mines and certain other Mines.

(Repeals in part 5 & 6 Vict. c. 99; Employment of Women, &c., in Mines.
„ „ 23 & 24 Vict. c. 151; Mines Inspection, &c.
„ 25 & 26 Vict. c. 79; Coal Mines.
Applies 5 & 6 Will. 4, c. 63; Weights and Measures.
„ 25 & 26 Vict. c. 76 (Weights and Measures (Ireland)) as amended by 30 & 31 Vict. c. 94.
„ Summary Jurisdiction and Procedure, and Petty Sessions (Ireland) Acts.)

77. An Act to consolidate and amend the Law relating to Metalliferous Mines.

(Repeals 5 & 6 Vict. c. 99; Employment of Women, &c., in Mines.
„ 23 & 24 Vict. c. 151; Mines Inspection, &c.
Applies Summary Jurisdiction and Procedure and Petty Sessions (Ireland) Acts.)

78. An Act for the Protection of certain Wild Birds during the breeding Season.

*79. An Act to amend the Law relating to Public Health.

(Repeals section 4 of 31 & 32 Vict. c. 130; Artisans and Labourers' Dwellings.
„ section 4 of 29 & 30 Vict. c. 90; Sanitary Act, 1866.
„ section 151 of 11 & 12 Vict. c. 63; Public Health.
Transfers powers, &c., of Board of Trade under 26 & 27 Vict. 124 (Alkali Act, 1863), and under 15 & 16 Vict. c. 84, and 34 & 35 Vict. c. 113 (Metropolis Water) to Local Government Board.
Transfers powers, &c., of Secretary of State under Highways and Turnpike Road Acts to Local Government Board.)

80. An Act to enable the Commissioners of Her Majesty's Treasury to pay into the High Court of Chancery in England certain moneys being the amount paid to the Paymaster-General on account of Her Majesty's Treasury in respect of the non-completion of the railway authorized by "The Kensington Station and North and South London Junction Railway Act, 1859."

81. An Act to amend the Attorneys and Solicitors' Act, 1860, by extending to Members of the Faculty of Advocates in Scotland the privileges conferred therein on Writers to the Signet, Solicitors before the Supreme Courts, and Procurators before the Sheriff Courts.

(Amends 23 & 24 Vict. c. 127; Attorneys and Solicitors.)

82. An Act to abolish Poundage for the Collection of Income Tax in Public Departments.

(Repeals in part 5 & 6 Vict. c. 35; Income Tax Collection.)

83. An Act to extend the Provisions of the Pensions Commutation Act, 1871, to Officers and Clerks of Telegraph Companies who are entitled to Annuities.

(Extends provisions of 34 & 35 Vict. c. 36 to Telegraph Offices, &c.)

84. An Act to amend the Law relating to the appointment of Revising Barristers.

(Repeals part of section 29 of 6 & 7 Vict. c. 18; Registration of Voters.
„ „ 4 of 26 & 27 Vict. c. 122; Circuits of Judges.)

85. An Act to continue certain Turnpike Acts in Great Britain, to repeal certain other Turnpike Acts, and to make further provisions concerning Turnpike Roads.

(Repeals and continues Acts as in Schedule.
Applies Railways Clauses Act, 1845.
„ Highways Act, 1864.)

86. An Act to amend the Law relating to Borough and other Local Courts of Record.

(Applies 1 & 2 Will. 4, c. 58; Adverse Claims.)

87. An Act to apply a sum out of the Consolidated Fund to the service of the year ending the 31st of March, 1873, and to appropriate the Supplies granted in this Session of Parliament.

(Amends section 7 of 33 & 34 Vict. c. 96; Appropriation Act, 1870.)

88. An Act to continue various expiring Laws.

(For list of these see *Companion* for 1871, p. 222–3, observing that 2 & 3 Vict. c. 74, Societies Unlawful (Ireland); 10 & 11 Vict. c. 90, Poor Laws (Ireland); 17 & 18 Vict. c. 117, Incumbered Estates (West Indies); and 32 & 33 Vict. c. 61, Trades Union Funds, are omitted from the present list, and that the following are added: 4 & 5 Vict. c. 35, Copyhold, &c., Commissions; 30 & 31 Vict. c. 36, Chester Courts; 31 & 32 Vict. c. 125, Election Petitions, &c.; 32 & 33 Vict. c. 21, Election Commissioners Expenses; 34 & 35 Vict. c. 87, Sunday Observance Prosecutions; and 34 & 35 Vict. c. 105, Petroleum.)

89. An Act to amend the Act providing Superannuation Allowances to Officers of Unions in Ireland.

(Amends 28 & 29 Vict. c. 26; Union Officers (Ireland).)

90. An Act to amend "The Irish Church Act, 1869."

(Amends 32 & 33 Vict. c. 42.)

91. An Act to authorise the application of Funds of Municipal Corporations and other governing bodies in certain cases.

(Recites 5 & 6 Will. 4, c. 76, and 20 & 21 Vict. c. 50.)

92. An Act to render unnecessary the general Appointment of Parish Constables.

(Repeals sections 12 and 13 of 5 & 6 Vict. c. 109; sections 15 to 18 of 13 & 14 Ch. 2, c. 12; section 4 of 18 Geo. 3, c. 19; and in part 2 Will. & Mary, c. 5; Parish Constables.
Applies Summary Jurisdiction Act, 1848.)

*93. An Act for consolidating, with Amendments, the Acts relating to Pawnbrokers in Great Britain.

(Repeals the following Enactments relating to Pawnbrokers in Great Britain, viz.: 1 Jac. 1, c. 21; 39 & 40 Geo. 3, c. 99; 25 Geo. 3, c 48, 55 Geo. 3, c. 184 in part, 9 Geo. 4, c. 49 in part, and 27 & 28 Vict. c. 56 in part, so far as relates to Pawnbrokers Licences; 9 & 10 Vict. c. 98; 17 & 18 Vict. c. 90, s. 4, in part; 19 & 20 Vict. c. 27; 22 & 23 Vict. c. 14; 23 & 24 Vict. c. 21.

Applies 11 & 12 Vict. c. 43; Summary Jurisdiction Act, 1848.
„ 7 & 8 Geo. 4, c. 64; Criminal Justice.)

*94. An Act for regulating the Sale of Intoxicating Liquors.

(Repeals the following Enactments relating to the sale, and licences for the sale, of Intoxicating Liquors, viz.: 21 James 1, c. 7 (so much as unrepealed); 9 Geo. 4, c. 61, in part; 11 Geo. 4, and 1 Will. 4, c. 64, in part; 4 & 5 Will. 4, c. 85, in part; 2 & 3 Vict. c. 47, in part; 3 & 4 Vict. c. 61, in part; 11 & 12 Vict. c. 49, as far as it relates to England; 18 & 19 Vict. c. 118, wholly; 23 & 24 Vict. c. 27, in part; 23 & 24 Vict. c. 113, s. 41; 27 & 28 Vict. c. 64; 28 & 29 Vict. c. 77, wholly (with an exception as to certain refreshment houses); 32 & 33 Vict. c. 27, in part; 33 & 34 Vict. c. 29, in part; 34 & 35 Vict. c. 88, wholly.

Amends 5 & 6 Vict. c. 44.

Applies and makes perpetual Wine and Beerhouse Acts, 1869 and 1870.
„ Beerhouses (Ireland) Act, 1864.
„ Summary Jurisdiction Act, 1848.
„ Intoxicating Liquors Licensing Act, 1828, 9 Geo. 4, c. 61.)

95. An Act to enlarge the powers of the Epping Forest Commissioners; and for other purposes.

(Amends 34 & 35 Vict. c. 93; Epping Forest.)

96. An Act to amend the Ecclesiastical Dilapidations Act, 1871; and for other purposes.

(Amends 34 & 35 Vict. c. 43; Ecclesiastical Dilapidations.)

97. An Act for further promoting the Revision of the Statute Law by repealing certain Enactments which have ceased to be in force or have become unnecessary.

98. An Act for promoting the Revision of the Statute Law by repealing certain Enactments which have ceased to be in force or have become unnecessary in Ireland.

(Enactments described in the Schedule.)

ABSTRACTS OF IMPORTANT ACTS OF PARLIAMENT

PASSED IN THE FOURTH SESSION OF THE TWENTIETH PARLIAMENT OF GREAT BRITAIN AND IRELAND.

1. ARMY AND NAVY.

MILITARY MANŒUVRES.

[35 and 36 Victoriæ, cap. 64.—10th August, 1872.]

An Act for making Provision for Facilitating the Manœuvres of Troops to be assembled during the Ensuing Autumn.

The preamble of this Act declares that, whereas a large body of troops is to be assembled for the purposes of military instruction, it is expedient that provision should be made for facilitating their exercise, and for compensating owners of land for damages caused by the proceedings. Clause 2 contains regulations for the encampment and passage of the forces over unenclosed or authorised enclosed lands. Clause 3 exempts all dwellings and enclosed lands from entry by the troops unless authority is given. Clauses 4 to 6 provide regulations for the determination of all claims on account of damage done to property during the manœuvres. Clauses 7 to 9 contain regulations for the punishment of persons not belonging to the Forces, who may enter enclosed lands without permission, and enable the Secretary of State to appoint constables and justices of the peace to carry out the provisions of the Act as to the punishment of offenders. Clause 12 enables a Secretary of State to order a part of the Irish Militia to join in the manœuvres. The area to which the Act refers is described in the schedule.

2. CHURCH AND EDUCATION.

AMENDMENT OF THE ACT OF UNIFORMITY.

[35 and 36 Victoriæ, cap. 35.—18th July, 1872.]

An Act for the Amendment of the Act of Uniformity.

The preamble declares the desirability of carrying out certain suggestions of the Commissioners appointed in 1869 to inquire into the diversity of practices which have arisen in churches, owing to the varying interpretations put upon certain rubrics and orders.

The 1st clause contains the definition of the various terms subsequently made use of. The term "Act of Uniformity" is declared to refer to the Act passed in the 14th year of Charles II. The second definition recites that the "Book of Common Prayer" means the book annexed to the said Act of Charles II. The terms "Cathedral" and "Church" are declared to mean any places of public worship, the latter referring to all places of worship not included under the former term where the Prayer-book is by the "Act of Uniformity" required to be used. Clause 2 declares that the shortened order for

morning and evening prayer provided in the schedule may, on any day except Sunday, Christmas Day, Ash Wednesday, Good Friday, and Ascension Day, be used in a cathedral or collegiate church, in addition to the full order of service at present prescribed, and in ordinary churches in lieu of that order. The 3rd clause sanctions the introduction in a cathedral or church, on any special occasion, approved by the Ordinary, of a special form of service, also to be approved by him, such service to consist of selections from the Bible or Prayer-book, except in the case of the anthems or hymns. By clause 4, it is enacted, that in any cathedral or church where morning and evening prayer, the litany, and the ante-communion office have been read, said, or sung, as required by law, on any Sunday or holiday, an additional service may be used at any hour, consisting solely of selections from the Bible or Prayer-book, with anthems or hymns from other sources, except that no portion of the Order for the Administration of the Lord's Supper or Holy Communion is to be so used. Nothing in this clause is to affect the use of any portion of the Prayer-book as otherwise authorised by the "Act of Uniformity," or this Act. The 5th clause declares the legality of the separate use of the Order for Morning Prayer, the Litany, and the Communion Office, reciting that such services may be used, together or singly, with or without the preaching of a sermon or lecture, or the reading of a homily. It is also declared that the Litany may be said after the third Collect at Evening Prayer, in addition to, or in lieu of, its use in the morning; these provisions being made without prejudice to any legal powers vested in the Ordinary. Clause 6 declares that sermons or lectures may be preached without any complete Prayer-book service, if they are preceded by any service authorised by this Act, or by the Bidding Prayer, or by a collect from the Prayer-book, with or without the Lord's Prayer. Clause 7 declares that nothing in this Act shall affect the provision made with respect to the chapels of the colleges at Oxford, Cambridge, and Durham, in 34 and 35 Vict., cap. 26, sec. 6 ("The Universities' Tests Act, 1871"). The 8th clause gives effect to the schedule and notes, as an integral part of the Act, and the last clause states that it may be cited as "The Act of Uniformity Amendment Act, 1872." The schedule of the Act contains the Shortened Order for Morning and Evening Prayer, and provides that the minister "may, in his discretion, add in its proper place any exhortation, prayer, canticle, hymn, psalm, or lesson, contained in the Order for Morning or Evening Prayer in the Book of Common Prayer, and omitted, or authorised to be omitted, from such Shortened Order." Each of the portions of Psalm cxix, as divided in the Prayer-book, is to be deemed for the purposes of this schedule to be a separate psalm.

RESIGNATION OF DEANS AND CANONS.

[35 and 36 Victoriæ, cap. 8.—13th May, 1872.]

An Act to provide for the Resignation of Deans and Canons.

The preamble of the Act declares the desirability of providing for the relief of deans and canons, who are permanently incapacitated by age or any mental or bodily infirmity from the due performance of

their duties, and the first clause defines the meaning of the terms used. By "dean" is to be understood the dean of any cathedral or collegiate church in England or Wales; by "canon" is meant a canon or minor canon, but not an honorary canon of the same cathedral; and by "bishop" the primates are to be understood in the archdioceses. The second clause provides for the resignation of the retiring dignitary by ordering that a representation of his incapacity with a statement of its cause, is to be made to the bishop, who is then to certify the fact to the patron or patrons of the deanery or canonry which becomes vacant from the date on which the bishop's certificate is issued in the same manner as if the retiring dean or canon were dead, except that the newly-appointed dignitary's income is to be subject to certain deductions which are to be paid in the form of a pension to the retiring dean or canon. This pension which is to be paid half yearly by the treasurer or other official of the chapter appointed for the purpose is to be a first charge upon the income, and is to consist of one-third of the average income of the three preceding years. The minimum pension is fixed at 400*l.* in case of a dean in England, and 300*l.* in the case of a dean in Wales; with 250*l.* for a canon in England, and 175*l.* in Wales (exclusive of minor canons), provided that the recipients of the pensions hold no other preferment; and in the event of one-third of the income not being equal to these amounts, a further deduction is to be made to bring it to the specified sum. By the fourth clause the bishop is empowered to direct enquiry to be made by three beneficed clergymen or clergy of higher rank into the incapacity of any dean or canon who expresses his desire to resign, such enquiry being conducted in the same way as an ordinary legal trial, the persons presiding having the power to administer oaths and examine witnesses either in writing or orally, any false statement wilfully made to them either on oath or not being punishable as a misdemeanour. Refusal to give evidence after the reasonable expenses incurred have been tendered to a witness, is to be certified by the clergy conducting the enquiry, and the contumacious persons are to be dealt with by a judge of a superior court as if they had refused to give evidence in such court. Clause 5 enables a bishop to grant a certificate of the incapacity of any dean or canon found by legal process to be of unsound mind without any representation being made before him by the person so dealt with of such incapacity, excepting in the case of a deanery or canonry annexed to the headship of a college or university professorship where the bishop has no power to interfere as long as provision is made to his satisfaction for the performance of the dean's or canon's duties. Clause 6 enacts that the reasonable expenses of the enquiry above alluded to are to be defrayed out of the income of the retiring dean or canon, after having been approved by the bishop. By the seventh clause it is declared that when any professorship, archdeaconry, headship, or other preferment, ecclesiastical or civil, is annexed to a deanery or canonry, or *vice versâ*, the retiring dean or canon is to be deemed to have vacated such office, and is to be entitled to a pension from its income calculated on the same basis as the pension accruing to him from his deanery or canonry, and payable in the same way, except that where any provision for a retiring pension already existed before the passing of this Act, such pension is to be paid instead of the one-third of the income already alluded to. The last clause of the Act provides that the Archbishop of Canterbury is to act on behalf of Her Majesty in two

cases where a bishop has no jurisdiction, viz., at St. George's, Windsor, and St. Peter's, Westminster.

BAPTISMAL FEES.

[35 and 36 Victoriæ, cap. 36.—6th August, 1872.]

An Act to render it unlawful to demand any Fee or Reward for the Celebration of the Sacrament of Baptism or the Registry thereof.

The preamble of the Act declares its object to be to remove the doubts which exist as to the right to demand fees for the administration of baptism, or its registration in certain churches and chapels of the Church of England as by law established, and its single clause declares that from the date of the passing of the Act (July 18th) it shall be illegal for any minister, clerk in orders, parish clerk, vestry clerk, or any other persons to demand such fees. Exception to the operation of the Act is made in favour of the present holder of any office who may at the present time be entitled by any Act of Parliament to demand such fees, and it is not to apply in such cases.

CHURCH SEATS.

[35 and 36 Victoriæ, cap. 49—6th August, 1872.]

An Act for the Free Use of Seats in certain Churches.

In the preamble it is declared to be desirable that "church seats which are intended by the founders or promoters of the churches to which they shall belong to be free from pew or seat rent, shall so continue." The second clause enacts that the Ecclesiastical Commissioners may accept a church site under a grant or conveyance in which it is declared that seats or pews, or some specified portion of the seats or pews in the church thereon to be erected shall not be let for any money payment, and thereupon it shall be unlawful to let the same pews or seats, or portion of the same. The third clause provides that in cases where none of the pews or seats are to be let, a sufficient endowment or stipend of not less than 100*l.* per annum shall be secured to the incumbent by or to the satisfaction of the Ecclesiastical Commissioners, and in cases where only a portion of the seats or pews may not be so let, an endowment or stipend in proportion to the number of free seats as may be determined on by the Commissioners.

---

3. CRIME AND PAUPERISM.

REFORMATORY AND INDUSTRIAL SCHOOLS.

[35 and 36 Victoriæ, cap. 21.—27th June, 1872.]

An Act to Amend the Laws relating to Reformatory and Industrial Schools.

By this statute the powers given to the prison authorities in England, under the 29th and 30th Vict., cap. 117, are enlarged. Prison authorities may now contribute towards the ultimate disposal of inmates of certified Reformatory and Industrial Schools. There is a provision in this Act as to the Elementary Education Act, 1870. It

is enacted that unless a prison authority agree to transfer an industrial school to a school board it may be continued to be maintained, notwithstanding a resolution as to a school board.

INFANT LIFE PROTECTION.

[35 and 36 Victoriæ, cap. 38.—25th July, 1872.]

An Act for the better Protection of Infant Life.

The preamble recites, that it is expedient to make better provision for the protection of infants entrusted to hired nurses. The first clause consists of definitions. Clause 2 makes it illegal for any person to receive or maintain for hire, or reward, for a longer period than 24 hours more than one child, or in case of twins, more than two under the age of one year, except in a registered house. The local authority (*i.e.*, in counties, except the metropolis and city of London, the justices in petty sessions; in the metropolis, the Board of Works; in city of London and liberties, the Common Council; and in boroughs, the council), is by clause 3, required to keep a register of the names of persons taking in infants, and the situation of their houses, also making bye-laws as to the number of infants to be received, the registration being made without charge, and remaining in force one year. Clause 4 empowers the local authority to refuse to register houses, or persons considered by them to be unfit for the purpose. Persons when registered are, on receiving infants, required by clause 5 to keep a register of their names, sexes, and ages, and of the names and addresses of those from whom they were received, or to whom they are delivered, the form of register being supplied gratuitously by the local authority to whom it is to be shown on application,—penalty for non-compliance 5*l.* Forgery of a certificate, or falsification of a register, is by clause 6 an offence against the Act. By clause 7, persons proved to be unfit, or incapable of taking charge of, or of feeding the infants, or whose houses are unfit for their reception, are to be struck off the list by the local authority.

Notice of the death of an infant is to be given to the coroner by the person registered within 24 hours, and an inquest is to be held unless a satisfactory certificate from the medical attendant is produced, non-compliance with this rule being an offence against the Act. The punishment for an offence is, by clause 9, imprisonment with or without hard labour, for not more than six months, or a fine of 5*l.* with liability to the removal of name from the register. By clause 10, the expenses of the working of the Act are to be paid out of the local rate. Clause 11 provides for the prosecution of offenders; and clause 12, enacts that moneys derived from fees and fines under the Act are to be credited to the local rate, Clause 13 exempts relatives, or guardians, and institutions for the protection or care of infants, as well as establishments under the Poor Law, from the operation of the Act. The Act is by clause 14 applied to Scotland, with certain modifications, and the date of its first coming into operation is by clause 15 fixed for the 1st November, 1872. There are three schedules, the last containing the form of register.

4. FINANCE AND TAXATION.

SUPERANNUATION OF PUBLIC OFFICIALS.

[35 and 36 Victoriæ, cap. 12.—13th May, 1872.]

An Act to Amend the Pension Act.

This statute amends the Pension Act, 4 and 5 Wm. IV., cap. 24. By that statute persons who had held "office in any public department," and had been pensioned or had a superannuation allowance, could be appointed to other offices, and were not to receive more than would be equal to the salaries of the former offices, so that in fact the pensions would be saved. Doubts having been entertained whether the Act extended beyond the United Kingdom, it is now provided that from the date of the recited statute it shall extend to all public departments in the British possessions, including India, and all Her Majesty's colonies and settlements.

LIFE ASSURANCE COMPANIES.

[35 and 36 Victoriæ, cap. 41.—6th August, 1872.]

An Act to amend the Life Assurance Companies Acts 1870 *and* 1871.

The deposit by a company into the Court of Chancery upon the incorporation of the company is, by clause 1, to be deemed part of the assets of the company. The Board of Trade may make rules with respect to the payment or repayment of the money. There is, by clause 2, to be a separation of the life funds, both as regards accounts and funds. The next investigation mentioned in the recited Acts is, by clause 3, to be deemed the first investigation after the passing of the Act. The Board of Trade is to lay before Parliament the statements or abstract of reports made by life assurance companies, and the winding-up of the subsidiary company is to be ancillary to the winding-up of the principal company. Clause 4 relates to the winding-up of a subsidiary company, which is to be ancillary to winding-up of principal company. Clause 5 enacts that "Where a life assurance company is being wound up by the Court, or subject to the supervision of the Court, or voluntarily, the value of every life annuity and life policy requiring to be valued in such winding-up shall be estimated in manner provided by the first schedule to this Act; but this section shall not apply to any company, the winding-up of which has commenced before the passing of this Act, unless the Court, having cognizance of the winding-up, so order, which order that court is hereby empowered to make, if it think it expedient so to do, on the application of any person interested in the winding-up of such company." By clause 7, it is declared that where a company, either before or after the passing of this Act, has transferred its business to, or has been amalgamated with, another company, no policy-holder in the first-mentioned company who shall pay to the other company the premiums accruing due in respect of his policy, shall, by reason of any such payment made after the passing of this Act, or by reason of any Act done after the passing of this Act, be deemed to have abandoned any claim which he would have had against the first-mentioned on due payment of premiums to such company, or to have accepted in lieu thereof the liability of the other company, unless such abandonment and acceptance have been signified by some writing, signed by

him or his agent lawfully authorised. The Act is to be construed as one with the recited Life Assurance Companies Acts.

COURT OF CHANCERY FUNDS.

[35 and 36 Victoriæ, cap. 44.—6th August, 1872.]

An Act to abolish the office of Accountant-General of the High Court of Chancery in England, and to amend the law respecting the investment of money paid into that Court, and the security and management of the moneys and effects of the suitors thereof.

There are 26 clauses and several schedules in the Act, carrying out the recommendations of the Chancery Commissioners as to a deposit accounts for suitors, and other improvements in the management of the funds of the Court of Chancery. The Act is, by clause 2, to come into operation on a day to be named in an order, and it is now in force as to the making of any rules and general order which the Lord Chancellor is empowered, with the advice and assistance of others, to make. The day on which the statute is to commence is to be appointed. The office of Accountant-General is, by clause 4, to be abolished "on the commencement of the Act"—that is, on a day to be fixed, and his duties to be performed by the Paymaster-General. The Consolidated Fund is, by clause 5, to be liable in default of the Paymaster-General. By clause 8, the Treasury is to cause the Paymaster-General to keep in the neighbourhood of the place where the Court of Chancery ordinarily holds its sittings an office for the purpose of carrying on the Chancery business, and for the making, for the purpose of Chancery business, payments of small amount in cash, and to provide clerks and officers necessary for conducting such business and making such payments. With regard to the "deposit account," all money in Court, without any application or request, when placed on deposit, is, by clause 14, to bear interest at 2 per cent., with any income-tax chargeable thereon. As to the deposit account, the Lord Chancellor, with the concurrence of the Treasury, is, by clause 18, to make rules, and as to general orders, he is, by clause 19, to be assisted in lunacy matters by the Lords Justices of Appeal, and, as to Chancery matters, by the Master of the Rolls, the Lords Justices, and the Vice-Chancellors. All land and buildings vested in the Accountant-General are, by clause 21, to be transferred on the commencement of the Act to the Commissioners of Her Majesty's Works and Public Buildings. The Accountant-General may, by clause 22, receive his full salary and emoluments as his retiring pension. The money vested under the Act to abolish slavery (3 and 4 William IV., cap. 73), is, by clause 25, to be transferred to the National Debt Commissioners. The schedules contain a list of the statutes affected by the present Act.

BANK OF ENGLAND DIRECTORS,

[35 and 36 Victoriæ, cap. 34.—July 18th, 1872.]

An Act to Amend the Law relating to the Election of Directors of the Bank of England.

The first clause enacts that section 52 of 8 and 9 Will. III, cap. 20 relative to election of directors of the Bank of England shall have effect if seven-eighths instead of two-thirds had been mentioned therein, in regard to the number of the old directors to be chosen.

5. PARLIAMENTARY PROCEDURE, LAW, AND JUSTICE.

JUDGES' SALARIES.

[35 and 36 Victoriæ, cap. 51.—6th August, 1872.]

An Act to Amend the Law relating to Judges' Salaries.

By this Act it is provided that the salary of every Judge in the United Kingdom is to begin from the date of his appointment, and not from the death or resignation of his immediate predecessor. The Act is to include all persons performing judicial duties, as well as stipendiary magistrates.

QUAKER MARRIAGES.

[35 and 36 Victoriæ, cap. 10.—13th May, 1872.]

An Act to Extend the Provisions of the Acts relating to Marriages in England and Ireland, so far as they relate to Marriages according to the Usages of the Society of Friends.

The preamble recites that in order that the relief intended to be given by the 7 and 8 Vict., cap. 81, may be made "fully effective," a provision in the 23rd and 24th Victoriæ, cap. 18, is to be repealed, which enacted "that the party or parties who shall not be a member or members of the said Society shall profess with or be of the persuasion of the Society." The single clause of the Act provides that, from and after the 1st of January next the proviso shall cease, but no marriage is to be valid unless a certificate be produced to the Registrar, signed by a registering officer of the Society of Friends, to the effect that the party is duly authorised to proceed to the accomplishment of such marriage according to the usages of the Society. No such certificate is however to be required in cases where the party giving such notice shall declare that both the parties to the intended marriage are either members of the Society, or in profession with, or of the persuasion thereof.

LOANS FOR COUNTY BUILDINGS.

[35 and 36 Victoriæ, cap. 7.—13th May, 1872.]

An Act to Amend the Law respecting the Borrowing of Money by County Authorities for County Buildings.

This short Act extends the period allowed by the County Buildings Act of 1826, for the repayment of loans on county building from 14 to 30 years, the justices of counties being now empowered to borrow money for the latter period.

THE BALLOT ACT.

[36 and 36 Victoriæ, cap. 33.—18th July, 1872.]

An Act to amend the Law relating to Procedure at Parliamentary and Municipal Elections.

This Act consists of 33 clauses and 6 schedules, all possessing the same legal force as the Act itself. The preamble simply declares tho

expediency of altering the law relating to the *modus operandi* at Parliamentary and Municipal Elections, the former of which are alone provided for in Part I.

Nomination of Candidates.

The 1st clause declares that candidates for Parliamentary elections are to be nominated in writing by two registered electors of the county or borough for which they stand as proposer and seconder, and by eight other registered electors of the same county or borough as assenting parties, the nomination paper being delivered by the candidate himself, or by his proposer or seconder, to the returning officer at the appointed time. If within one hour after the time appointed for the election there be no more candidates than vacancies, the candidates nominated are to be declared by the returning officer duly elected, and their names returned to the Clerk of the Crown in Chancery; but if the number of candidates is greater than the number of vacancies, the election is to be adjourned, and a poll taken. A candidate may withdraw during the time appointed for the election, but not afterwards, by giving notice in writing to the returning officer, and the proposer of a candidate nominated in his absence out of the country may also withdraw his name by a written notice, signed by him, and a written declaration of the candidate's absence. If a candidate dies between the adjournment of an election and the commencement of the poll, the returning officer is empowered, on satisfactory proof of his death, to countermand the notice of the poll, and re-commence the proceedings, as if the writ for the election had been received on the day on which proof of death was given, provided that any other candidate's nomination, accepted at the same time, holds good for the fresh proceedings.

Polling.

Clause 2 refers to the polling process, and enacts at the outset that the votes are to be given by ballot, on papers showing the name and description of the candidates, with a number printed on the back, and a counterfoil attached, containing the same number on the face. At the time of voting, the paper is to be officially marked on both sides, and delivered at the polling station to the voter, whose number on the register is to be marked on the counterfoil, and who, having "secretly marked his vote on the paper and folded it up so as to conceal his vote," is to place it in a closed box, in the presence of the presiding officer, after having shown to him the official mark on the back. Any paper without the official mark, or on which votes are given to more than the number of candidates for which the voter is entitled to vote, or containing anything more than the official mark on the back, by which the voter can be identified, is to be void, and not counted. At the close of the poll the ballot-boxes are to be sealed and taken charge of by the returning officer, who, in the presence of the candidates' agents, if any attend, is to open the boxes, count the votes, and forthwith declare the elected candidate or candidates, returning their names to the Clerk of the Crown in Chancery. The returning officer's decision on any dispute as to a ballot-paper is to be final, subject to reversal on petition questioning the election or return. If an equal number of votes is polled for any candidate, and a casting vote would decide the election, such vote may be given by the returning officer if

a registered elector of the county or borough; but otherwise he is not entitled to vote at any election at which he presides.

Offences at Elections.

Clause 3 deals with offences at elections, and declares that any person who (1) forges or fraudulently defaces or destroys a nomination paper, or delivers one to a returning officer knowing it to be forged; or (2) who forges, counterfeits, or fraudulently defaces or destroys a ballot-paper or its official mark; or (3) supplies a ballot-paper to any one without authority; or (4) fraudulently places any paper, other than his own ballot-paper, in the ballot-box; or (5) fraudulently takes a ballot-paper from a polling station; or (6) without authority destroys, takes, opens, or in any way interferes with a ballot-box or ballot-papers in use at an election,—is to be guilty of a misdemeanour, and liable, if a returning officer or clerk at a polling station, to imprisonment, with or without hard labour, for a term not exceeding two years, or if any other person, to similar punishment for not more than six months. Any attempt to commit the above offences is to be punished in the same manner as if the offence had been committed. In any indictment for such offences, the papers and other instruments at the election are to be stated to be the property of the returning officer.

Penalties for Infringement of Secrecy.

Clause 4 imposes as a penalty for the infringement of secrecy at a polling station, either by the officer, clerk, agent, or other person, imprisonment for not more than six months with or without hard labour, on summary conviction before two justices of the peace; under such infringement of secrecy being included, the disclosure of the name or number on the register of voters of any person who has or has not applied for a ballot-paper, interference with a voter when marking his vote, giving information as to a voter's intentions, or inducing a voter to display his ballot-paper or to make known the name of the candidate for whom he has voted.

Polling Districts.

Clause 6 empowers the local authorities named in section 34 of the Representation of the People Act, 1867 (*i.e.*, in counties the justices of the peace assembled in quarter session, the town council in every municipal borough, and the justices of the peace in other boroughs, or, where two municipal boroughs form one Parliamentary borough, the town council of the borough where the nomination takes place), to divide every county and borough into polling districts as soon as possible after the passing of the Act, providing that every resident elector shall have a polling place within four miles of his house, but no polling district need be formed unless it contains 100 registered electors. The division of districts in boroughs is left to the discretion of the local authority. A copy of all orders made for the purpose of carrying out this section is to be forwarded, on or before the 1st of May, 1873, to one of Her Majesty's Principal Secretaries of State, by whom it is to be laid before Parliament, stating how far the provisions of the Act for the formation of polling districts have been complied with; and orders made subsequent to that date are also to be reported in like manner. This clause adds to the above definition of the "local

authority," that the provisions of the Act of 1867 as to a Parliamentary borough formed of two municipal boroughs are to apply to a combination of a municipal borough and any other places; and that in a borough where a town council is not the local authority, and which is not within one petty sessional division, the justices for the county in quarter session are to form the local authority. No election is to be questioned on account of non-compliance with this clause of the Act: and any order made by a local authority as to polling districts or places is to apply only to lists and registers of voters made subsequent to its date, and to elections held after such register of voters has come into force. Other minor qualifications are also mentioned.

Use of Schools for Polling Places.

Clause 6 authorises the returning officer to use, free of charge, any school in receipt of a Government grant, or any room maintained out of a local rate, for a polling station; but he is to make good any expense incurred in fitting the room for the purpose, or any damage done. If a room in an unoccupied house is used as a polling station, no person is thereby to be rendered liable for rates.

Voters entitled to Polling-papers.

Clauses 7 entitles all registered voters, and none others to vote at elections, and to demand and receive a ballot-paper, unless prohibited from voting by any statute or by the common law of Parliament.

Duties and liabilities of Returning and Election Officers.

The duties of returning and election officers form the subject of the next five sections of the Act. They are (clause 8) to provide all things needful to carry out its provisions, and to appoint and pay the necessary officers, all such expenses being repayable in the same manner as expenses incurred in the erection of polling-booths are by law payable. When the sheriff is returning officer for more than one county, he may appoint a deputy, who is in all respects to act and be considered the returning officer for the time being. The presiding officer (clause 9) may order the removal from a polling station, by a policeman or other person with his written authority, of any person guilty of any misconduct or disobedience to his lawful orders, such person being afterwards excluded from the station, and if charged with the offence he may be kept in custody until he can be brought before a justice of the peace. The power thus conferred is not to be used to prevent a person legally entitled to vote from giving his vote. For the purpose of adjourning the poll, a presiding officer is, by clause 10, to have the same power as a deputy returning officer, and either he or the clerk at a polling station is authorised to administer the oath, and ask the questions required by the Act, the declarations under its provisions being taken and received by a justice of the peace, or by any returning officer. Under clause 11, any returning officer, presiding officer, or clerk, guilty of a wilful misfeasance, act, or omission, in contravention of the Act, is to forfeit to the person aggrieved by such act a sum not exceeding 100*l.*, in addition to any other penalty or liability to which he may be subject. The last part of this section applies to all returning officers, their partners, or clerks, the provisions of clause 50 of the Representation of the People

Act of 1867, which makes it a misdemeanour for them to act as agent for a candidate at an election conducted by them.

Miscellaneous Provisions.

A series of "miscellaneous" provisions follow. Clause 12 enacts that no person who has voted at an election shall be required to state for whom he has voted in any legal proceeding relative to the election or return. By clause 13, no election is to be invalidated by a non-compliance with the rules subsequently printed for the conduct of elections (Schedule I), provided that it shall appear to the tribunal inquiring into the matter that the principles of the body of the Act were not violated, and that such non-compliance or mistake did not affect the result of the election. Clause 14 authorises the use in Parliamentary or municipal boroughs occupying the whole or part of the same area of the ballot-boxes belonging to either the Parliamentary or municipal officers, and *vice versâ*, any damage done to them being repayable as part of the expenses of the election in which they were injured. The 15th clause provides for the construction of the Act, as far as is consistent with its tenor, as part and parcel of the other enactments in force for the time being relative to the representation of the people, the regulations made by it for taking the poll being substituted for those in the said enactments.

Application of the Act to Scotland and Ireland.

By the 16th clause, the necessary alterations in the wording of the Act are made as far as concerns Parliamentary elections to enable its provisions to be applied to Scotland, and by section 17 to Ireland. The 19th section makes a slight change in the law as to voting in wards in certain boroughs.

Municipal Elections.

The second part of the Act applies the previous clauses to municipal elections, which are to be conducted, according to clause 20, in the same manner as before the passing of this Act, except that, in the event of a contested election, the poll is to be taken exactly in the same manner as at a Parliamentary election—*i.e.*, by ballot. Clause 21 abolishes the appointment of ward assessors for municipal elections, which are in future to be held before the mayor, alderman, or other returning officer only. This portion of the Act is also applied to Scotland by clause 22, and to Ireland by clause 23, with the necessary modifications.

Personation at Elections.

The third part of the Act relates to personation at elections, and provides for the punishment of offenders. Personation is defined in clause 24 as consisting in the application for a ballot-paper in the name of some other person, whether living, dead, or fictitious, or in the application for a second ballot-paper by any one who has already voted. The offence of personation, or aiding, abetting, counselling, or procuring its commission, is declared to be felony, subject, on conviction, to imprisonment with hard labour for not more than two years. Returning officers are required to prosecute any person whom they believe to be guilty of the offence of aiding, abetting, counselling, or procuring its commission, and any expenses incurred by them or

by witnesses are to be repaid as in other cases of folony. The provisions of the Registration Acts (6 and 7 Vict., c. 18, and 13 and 14 Vict., c. 69), relative to personation, are to apply to personation under this Act in England and Ireland. The commission of the offence, or assisting personally, or by agents inducing others to commit it, are to render a candidate, on the report of a judge, incapable of sitting in the Parliament then in existence for the county or borough for which he stands. By clause 25, in any case where votes have been procured by bribery, treating, or undue influence, on the part of a candidate or his agents, one vote is, on the trial of an election petition, to be struck off for every person who is proved to have been bribed, treated, or unduly influenced, and a similar course is to be pursued when an agent, clerk, messenger, or person otherwise employed by a candidate for reward is found to have voted. This part of the Act applies to Scotland, where personation is to be deemed a crime and offence, subject to the usual rules as to apprehension, &c., and persons accused of it are to be tried in the Court of Justiciary, in Edinburgh, or on circuit at the instance of the Lord Advocate, or before the Sheriff Court at the instance of the Procurator Fiscal. Clause 27 applies this part of the Act to University elections, and it is to be construed as one with the Parliamentary Elections Act, 1868.

Legal Force of the Schedules.

Part IV of the Act gives effect to its schedules, notes, and directions as part of the Act, and explains certain terms relative to municipal corporations. By its last clause, the 33rd, the Act is to be cited as the Ballot Act, 1872, and is to continue in force until the 31st of December, 1880, subject to Parliamentary decision as to its continuance beyond that date.

Rules for Parliamentary Elections.

These rules are supplied in Schedule I, Part I. The *Notice of an Election*, of the day of polling in the event of a contest, and of the places where nomination papers can be obtained, is to be given by the returning officer in counties within two days after the receipt of the writ, and in boroughs on the date of its receipt or the next day, between 9 a.m. and 4 p.m. Such notice is to be sent in case of county elections to the principal postmaster of each polling place, who is to publish it free of charge like a post-office notice. It is to be endorsed "Notice of Election," and forwarded free of charge. The *Day of Election* is to be fixed by the returning officer in a county or district borough not later than the ninth day after the receipt of the writ, and with an interval of three clear days between the issue of the notice and the election, and in any other than a district borough not later than the fourth day after receipt of writ, with not less than two clear days between the issue of notice and the election. The *Place of Election* is to be a convenient room in the same town where it would have been held if the Act had not been passed, or where the election would not have been held in a town the returning officer is to fix the town most convenient to the electors. The *Time of Election* is to consist of two hours between 10 a.m. and 3 p.m., to be fixed by the returning officer, who is to attend during the appointed time, and for one hour after. The *Nomination of each Candidate* is to be made by a separate paper, but the same electors may subscribe as many nomi-

nations as there are vacancies to be filled, but not more. The *Description of a Candidate* is to be made in terms approved by the returning officer as sufficient for his identification, including his name, abode, rank, profession, or calling, his surname standing first in the list of names. No objection on the ground of an insufficient description of a candidate, or its non-compliance with this rule, is to be valid unless made by the returning officer or other person at or immediately after the delivery of the paper. The *Supply of Nomination Papers* by the returning officer to registered electors is to take place during two hours fixed by him, between 10 a.m. and 2 p.m., on the days intervening between the notice of election and the day of election, and during the time appointed for the election; but the use of such papers is not obligatory, provided a nomination be made in the form prescribed by the Act. The *Delivery of Nomination Papers to the Returning Officer* is to take place during the time of election, the proceedings being attended only by the candidate, his proposer, seconder, and one other person selected by him except by persons assisting the returning officer. *Notice of Poll* is to be given by the returning officer as soon as possible after adjourning the election, including the day of polling, the names and descriptions of the candidates as in the nomination papers, and of the persons signing them, and the order in which they are to stand in the ballot-paper. In elections for counties a copy of this notice is to be sent to the principal postmaster of the town in which the place of election is situated, and he is to telegraph the same, free of charge, to the several postal telegraph offices in the county for which the election is to be held, where it is to be published like a post-office notice. The *Withdrawal of a Nominated Candidate* is to be publicly notified by the returning officer, with the names of those who subscribed his nomination paper, as well as of the candidates who stood nominated or were elected. The *Announcement of Candidates* by the returning officer, together with the names of their proposers and seconders, is to be made by means of placards in a conspicuous place outside the place of election, on receipt of the nomination paper. The *Names of Candidates inserted in Ballot-papers* are to consist of those only who have been duly nominated, and to whom no objection has been made before the returning officer, within the legal time. The *Validity of Objections to Nominations* is to be decided by the returning officer, whose decision, if disallowing the objection, is to be final, but, if allowing it, is to be subject to reversal on petition.

The Rules for the Poll.

The *Day of Poll* is to be appointed by the returning officer, in counties or district boroughs, not being less than two nor more than six clear days, and, in other boroughs, more than three clear days, after the day fixed for the election. *Polling Places* are to be provided by the returning officer in sufficient number for the accommodation of the voters, and distributed as most convenient for the electors, provided that, in a district borough, there be at least one polling station at each contributory place of such borough. *Compartments in Polling Stations* are to be formed in sufficient number to enable electors to mark their votes "screened from observation," at least one compartment being provided for each 150 electors entitled to vote at such station. A separate room or booth may contain one or more polling stations.

Admission of Voters to Polling Stations is only to be given at the station allotted to them, due notice of the description of voters entitled to vote at each station, and of the mode in which they are entitled to vote being given. *Instruments for Voting*, including materials for voters to mark the ballot-papers, official stamps for marking them, and registers of voters entitled to poll at each station, are to be provided by the returning officer, the official mark being kept secret by him, and only used once at intervals of seven years at elections of the same place. The *Duty of the Presiding Officer*, who is to be appointed by the returning officer for each station, is to keep order there, to regulate the number of electors admitted at a time, and to exclude all other persons except the clerks, agents of the candidates, and constables on duty. The *Contents of the Ballot-papers* are to consist of a list of the candidates described in their nomination papers and arranged alphabetically in order of surnames, or, if two have the same surname, in the order of their other names. The *Construction of the Ballot-box* is to be such that the ballot-papers can be introduced therein, but cannot be withdrawn without the unlocking of the box, which is before the commencement of the poll to be opened and proved to be empty by the presiding officer, in the presence of such persons as may be in the station, and is then to be locked and sealed by him and to be placed in his view for the receipt of papers. The *Delivery of the Ballot-paper to the Voter* is to be preceded by its official stamping on both sides, and by the calling out of the number, name, and description of the elector from the register, the number being marked on the counterfoil, and a mark placed against the elector's number in the register to show that he has received a ballot-paper, but without noting the particular paper given to him. The *Process of Ballotting* as performed by the elector is to consist in his proceeding into one of the compartments in the polling station on receipt of the paper, and there marking it and folding it up so as to conceal the vote, and then placing it in the box, voting without undue delay, and immediately quitting the station. *Voters Incapacitated by Physical Causes or Inability to Read* from polling as prescribed by the act (or Jews, if the election is on Saturday) are entitled, on application to the presiding officer, to have their votes marked on a ballot-paper according to their directions, in the presence of the candidates' agents, after making a declaration of the cause of their inability, the ballot-paper being then placed in the box, and the name and number of the voter on the register of voters, with the reason of its being so marked, being entered in a special list. *Tendered Votes, i.e.*, votes by persons representing themselves to be electors on the register after another person has already voted as such elector, are to be accepted after the usual oath has been administered, but the ballot-papers supplied to them are to be of a different colour to the other ballot-papers, and are to be placed aside in a separate packet, not in the box. *Spoilt Ballot-papers*, rendered useless by accident, are to be given to the returning officer, who is empowered at his discretion to cancel them, and issue others in their places. The *Process observed at the Close of the Poll* is to consist in the sealing by the presiding officer at each station, and by the candidates' agents, if they desire it, of the ballot-box, the unused and spoilt papers, the tendered papers, the marked copies of the register of voters, the counterfoils of the ballot-papers, the tendered votes list, and other lists, all of

which are to be delivered to the returning officer, accompanied by a numerical statement of the same.

Counting the Votes.

The *Counting of Votes*, which may be attended by the candidates' agents, is to be performed by the returning officer as soon as possible after the closing of the poll,—notice of time and place having been given to the agents, who are to be the only persons present, except the assistants and clerks of the officer, or any person sanctioned by him. The officer, before he counts the votes, is to open all ballot-boxes, count and record the number of papers in them, then mix them together, keeping them, meanwhile, face downwards, and using all precautions to prevent any person seeing the numbers on the backs. He is to proceed with the duty (allowing only time for refreshment) continuously, except between 7 p.m. and 9 a.m., during which time all papers and documents are to be placed under seal by him and the candidates' agents. *Rejected Ballot-papers* are to be endorsed by the returning officer who considers them invalid, adding to the endorsement, "rejection objected to," if an agent questions his decision. The number of rejected papers is to be reported to the Clerk of the Crown in Chancery by the returning officer under four heads:—(1) those wanting the official mark; (2) those with votes for more candidates than the voter is entitled to poll for; (3) those with writing or mark by which voter could be identified; (4) those unmarked or void for uncertainty. The *Final Process* is to consist in the sealing in separate packets by the returning officer of the counted and rejected ballot-papers, verifying the ballot-paper account of each presiding officer in the presence of the agents, by comparing it with the number of papers recorded by him, and the unused and spoilt papers, and the tendered votes list, resealing each packet after examination. He is not to open the sealed packet of tendered ballot-papers or marked copy of the register of voters and counterfoils. The *Result of the Process* is to be reported by the returning officer to the Clerk of the Crown in Chancery, and any of the candidates' agents are to be allowed to copy the report.

Custody of Documents.

All documents, books, lists, and papers used in polling are also to be forwarded to the Clerk of the Crown, after having been endorsed by the returning officer, with a description of their contents, the date of election, and name of county or borough for which it was held. The *Custody of the Documents* is vested in the Clerk of the Crown, who is to retain them for a year and then destroy them, unless otherwise ordered by the House of Commons or by a superior court, whose order is also necessary before any person is to be allowed to inspect the registered ballot-papers, and if permission is granted by a court, it is only to be given on evidence that the inspection or production of the paper is required for the institution or maintenance of a prosecution relative to ballot-papers, or for an enquiry into an election or return. An order of the House of Commons, or a tribunal having cognizance in such matters, is also necessary for the unsealing of packets of counterfoils, or inspection of counted ballot-papers, and when such a course is taken, the mode in which an elector has voted is not to be discovered until his vote is declared by a competent court to be

invalid. All other documents, except ballot-papers and counterfoils, in the custody of the Clerk of the Crown in Chancery, are to be open to public inspection, under regulations framed by him with the consent of the Speaker of the House of Commons, and he may supply copies of, or extracts from, such documents on payment of fees, and subject to regulations approved by the Treasury. All documents produced by the Clerk of the Crown or his agent, as referring to a special election or a ballot-paper purporting to have been used at any election, properly numbered and marked, are to be accepted as *primâ facie* evidence that such documents relate to the specified election, and that the person who voted by such ballot-paper was the person who at the election bore in the register of voters the same number affixed to the paper.

General Provisions.

Certificates of the Election of Members are to be endorsed by the returning officer on the back of the writ, and may be delivered to the principal postmaster for transmission to the Clerk of the Crown. Public notice of the names of the elected candidates is also to be given as soon as possible by the returning officer, with the number of votes for all candidates, either by advertisement, handbill, placard, or other means at his discretion, a rule applying to all public announcements he is required to make. The returning officer may preside at any polling station as "presiding officer." In the case of a contested election, he may obtain assistance from other competent persons, in addition to the clerks, in counting the votes, but no person is to be employed by him who has been employed by any one else in or about the election. The clerks may do any of the duties of the presiding officer except ordering the arrest, exclusion, or ejection of a person from a polling station. A candidate may act for himself instead of by an agent, and be allowed to attend at the same places. The name and address of candidates' agents are to be forwarded to the returning officer at least the day before the opening of the poll, and he may refuse to admit a person named unless this rule is observed. If an agent during an election dies or becomes incapable, the candidate may appoint a successor, giving his name and address in writing to the returning officer. Returning officers are to make a statutory declaration of secrecy before a justice of the peace, and all other officers, clerks, or agents, to make the same before the justice or the returning officer, but they are not to be required to take any oath or make any other declaration during an election. The non-attendance of candidates' agents, when by the Act they are permitted to be present, is not to invalidate the proceedings. Sunday, Christmas Day, Good Friday, or a public fast or thanksgiving, is a *dies non* for the purpose of the Act, anything required to be done on any such day being postponed to the following day.

The remainder of the rules apply to the details of municipal elections. The second schedule supplies copies of the forms to be used for writs, polling-papers, declarations, &c., and the other schedules show the effect of the various provisions of the Act on previous Acts relative to the same subject.

6. TRADE AND SHIPPING.

LICENSING ACT.

[35 and 36 Victoriæ, cap. 94.—10th August, 1872.]

An Act for Regulating the Sale of Intoxicating Liquors.

There are 90 sections in the measure and two schedules, the second reciting 16 statutes wholly or partially repealed. The new law has immediate operation, and its objects are, according to the preamble, to amend the law for the sale by retail of intoxicating liquors, and the regulation of publichouses and other places in which intoxicating liquors are sold, and to make further provisions in respect to the grant of new licences for the sale of intoxicating liquors and the better prevention of drunkenness. The Act is not to extend to Scotland. The first part of the statute (clauses 3—11), relates to *Illicit Sales of Spirits*, and declares the penalties to be enforced or the imprisonment to be awarded. The sale of spirits to a person "apparently under 16 years" is, by clause 7, to entail a penalty of 20*s.* for the first, and 40*s.* for a second or subsequent offence. The sale of spirits by retail is by clause 8 to be by standard measure. The names of persons licensed to be affixed to the premises (clause 11). The second part of the Act (clauses 12—18) deals with *Offences against Public Order*. By clause 12, a person found drunk is to be liable to penalties increasing from 10*s.* for a first to 40*s.* for subsequent offences. Clause 13 enacts that, "If any licensed person permits drunkenness or any violent, quarrelsome, or riotous conduct to take place on his premises, or sells any intoxicating liquor to any drunken person, he shall be liable to a penalty not exceeding for the first offence 10*l.*, and not exceeding for the second and any subsequent offence 20*l.*" There are in clause 14 penalties for keeping disorderly houses, for harbouring constables, and for permitting gaming. Drunkards can now be excluded from licensed premises by clause 18: "Any such person who upon being requested, in pursuance to this section, by such licensed person, or his agent or servant, or any constable to quit such premises, refuses or fails so to do, shall be liable to a penalty not exceeding 5*l.*; and all constables are required, on the demand of such licensed person, agent, or servant, to expel, or assist in expelling, every such person from such premises, and may use such force as may be required for that purpose. The Court committing any person to prison for non-payment of any penalty under this section may order him to be imprisoned with hard labour." The third part of the Act relates to the *Adulteration of Intoxicating Liquors*. Any person who mixes or sells any liquor adulterated with coculus indicus, chloride of sodium (otherwise common salt), copperas, opium, Indian hemp, strychnine, tobacco, darnel seed, extract of logwood, salts of zinc or lead, alum, and any extract or compound of any of the above ingredients, or any ingredient deleterious to health, is by clause 19, to be liable for the first offence to a penalty not exceeding 20*l.*, or to imprisonment for a month, with or without hard labour; and for a second or subsequent offence, 100*l.*, or three months' hard labour; and to be disqualified for a period not less than two years and not exceeding 10 years, with other public exposure on such convictions. In order to test adulterations, any superintendent of police or other constable, authorised in writing by the police authority so to do,

or any officer of Inland Revenue, may by clause 22 procure samples of any intoxicating liquor from a person selling or keeping or exposing the same for sale. He may purchase or require the vendor to show him and allow him to inspect any vessel containing liquor, and to obtain samples of such intoxicating liquor on payment or tender of the value of such samples. The same are to be analyzed and proceedings adopted. *The Closing of Premises* is dealt with in the next division (clauses 24—29). Licensed houses may by clause 23 be closed by justices in case of a riot. As to the times of closing, clause 24 enacts that premises in the City of London or liberties thereof, or any parish subject to the Metropolitan Board of Works, or within the four mile radius from Charing Cross, on Sunday, Christmas Day, and Good Friday, during the whole day before 1 o'clock, and between 3 and 6 o'clock in the afternoon, and after the hour of 11 of the clock at night, and on other days before 5 o'clock on the following morning shall be closed; if situated beyond those places, on Sunday, Christmas Day, and Good Friday, during the whole day before the hour of half-past 12 (or, if the licensing justices direct, 1) in the afternoon, and between the hours of half-past 2 (or, if 1 be the hour of opening, then 3), and 6 in the afternoon, and after the hour of 10 (or if the licensing justices direct, any hour not earlier than 9 and not later than 11) at night; and on all other days before the hour of 6 (or if the licensing justices direct, any hour not earlier than 5 and not later than 7) in the morning, and after the hour of 11 (or if the licensing justices direct, any hour not earlier than 10 and not later than 12) at night. Any offence for keeping open may be endorsed on the licence. The provisions are not to exclude a person licensed from selling to *bonâ fide* travellers or to persons lodging in his house. "Nothing in this section contained shall preclude the sale at any time at a railway station of intoxicating liquors to persons arriving at or departing from such station by railroad." An order for the alteration of the closing hours may be made by the licensing justices, and also in Middlesex and Surrey, at any time before the next general annual licensing or any special session summoned, provided 21 days' notice is given. Any order made by the licensing justices for the alteration of the closing hours is not to come into force for a month after the date, and is to be advertised. Penalties are by clause 25 to be imposed on persons found on premises during the prohibited hours. A local authority of any licensing district, upon the production of such evidence as may be deemed sufficient to show that it is necessary or desirable so to do for the accommodation of any considerable number of persons attending any public market or following any lawful trade or calling, or attending any theatre, may by clause 26 grant to any licensed victualler or licensed keeper of a refreshment-house, in respect of such premises in the immediate neighbourhood of such market or place where the persons follow such lawful trade or calling, or of any such theatre, an order exempting such persons from the provisions of this Act with respect to the closing of his premises on such days and during such time, except between the hours of one and two of the clock in the morning as may be specified in such order. There are penalties for infringing the provisions. The "local authority" to grant such orders in the Metropolis is the Police Commissioner, subject to the approbation of the Secretary of State; in the City, the City of London Police Commissioners, subject to the approbation of the Lord

Mayor, and in other places two justices of the peace in petty session assembled. Intoxicating liquors are not by clause 28 to be drunk at refreshment-houses during the time they would be closed if they were inns. The law is amended as to refreshment houses; occasional licences may by clause 29 be granted by local authorities to exempt from closing during certain hours. Licenses are by clause 30 to be forfeited for repeated convictions, and premises to be disqualified. Constables may by clause 35 enter premises. A register of licences is by clause 36 to be kept in a licensing district, and may be inspected and extracts made. The next branch of the statute, commencing at section 37, relates to the *Licensing Committees of Justices in counties;* then (clause 38), as to the *Licensing Committee of Justices in boroughs*, with regulations as to new licenses and the transfer of licences, with renewals, &c. An annual value is by clause 46 to be ascertained to obtain a licence. There are various provisions as to the penalties and other matters to carry out the Act. A moiety of a penalty, if the Court think fit, may be awarded to the Police Superannuation Fund. Regulations are made as to retail licenses to wholesale grocers, and there is a long interpretation clause. Certain of the provisions are applied to Ireland, and fully mentioned. The second schedule of the Act states the extent to which the recited Acts are repealed. There is no day mentioned when the Act is to take effect, and, therefore, it became operative from the 10th of August, when it received the Royal assent.

PAWNBROKERS.

[35 and 36 Victoriæ, cap. 93.—10th August, 1872.]

An Act for Consolidating with Amendments the Acts relating to Pawnbrokers in Great Britain.

This Act consisting of 57 clauses and 6 schedules, is, by clause 3, to take effect on and after the 1st of January, 1873. Clauses 4 and 11 recite, that the Act is not to affect obligations entered into, or to interfere with prosecution on account of offences committed before its coming into operation. Clause 5 defines the terms used in the Act; and clause 6 extends its provisions to all persons lending sums not over 10*l.* for goods and chattels, with any agreement or understanding expressed or implied that they are to be returned. Clauses 7 and 9 bring executors and administrators of pawnbrokers under the operations of the Act, and clause 8, makes masters responsible for their servant's deeds. By clause 10 the Act is only to apply in respect of loans under 10*l.* Clauses 12 and 13 recite the obligation of pawnbrokers to keep books in forms prescribed in the schedules, and to keep their names over their doors. Clauses 14 to 24 contain the rules for pawning, redemption, &c., the main points in which are, that (17) pledges under 10*s.* are to be redeemable within a year, and seven days' of grace; pledges above 10*s.* (18) being redeemable until sold, all such sales (19) being by public auction only. By clause 22, any surplus arising from sales over the amount lent, and the legal profits thereon is to be handed over to the owner of the pledges if demanded within three years, the books of the shop being evidence, and any failure to comply on the part of a pawnbroker being an offence against the Act rendering him liable to forfeit to the person aggrieved a sum not exceeding 10*l.* By clause 24 special contracts may be made

relieving the pawnbroker from the above provisions. Clauses 25 to 31 relate to *Delivery of Pledges*, the liability of pawnbrokers in case of fire being dealt with in clause 27, and compensation for deterioration in value of pledges through the pawnbroker's fault in clause 28. By clause 32 it is declared to be an offence against the Act for a pawnbroker to take articles in pawn from children under 12, or intoxicated persons; to purchase or exchange tickets from other brokers, to employ servants under 16 to take pledges, to carry on business on Sunday, Good Friday, Christmas Day, or public fasts and thanksgivings; to buy articles while in pawn with him, except at public auction; to suffer a pledge to be redeemed in order that he may buy it, or to agree to any scheme for its purchase, sale, or disposition within the time of redemption; or to sell pledges except at times allowed by the Act. By clause 33 the illegal pawning of the property of others; and by clause 34 the withholding of the truth, or giving false information as to articles pledged, are offences against the Act; and it is by clause 35 an offence if a pawnbroker receives articles from persons to whom they have been entrusted to make, wash, mend, or finish, a warrant to search premises for such articles being obtainable by clause 36. By clause 37 pawnbrokers are required to take out Inland Revenue Licenses, which are to expire on the 31st of July. The remaining clauses relate to the formalities for the obtaining of licenses, and certificates, and to penalties, and legal proceedings under the Act. The fourth schedule provides that the profit (or interest charged) on loans of and under 40*s.* is to be ½*d.* for 2*s.*, or fraction of 2*s.*, for one month, provided that if the pledge is redeemed within 14 days after the end of any month after the first, the pawnbroker shall only be entitled to charge half the month's interest. On loans above 40*s.* the rate of interest is ½*d.* for every half-crown, or fraction thereof, per month or part of a month. The charge for pawn tickets is fixed at ½*d.* when the loan is 10*s.* and under, and 1*d.* for sums above that amount; 1*d.* is to be paid for the inspection of a pawnbroker's books; ½*d.* for a form of declaration when the loan is 5*s.* or under, and 1*d.* if above that amount.

MERCHANT SHIPPING ACTS AMENDMENT.

[35 and 36 Victoriæ, cap. 73.—10th August, 1872.]

An Act to amend the Merchant Shipping Acts and the Passenger Acts.

This Act is, by clause 2, to take effect on the 1st of January, 1873. The third clause transfers to the Board of Trade the duties of the Commissioners of Customs with respect to the measurement of ships, and the fourth transfers to the Registrar-General the duties of the Commissioners as to the registry of vessels. With respect to passenger ships, the Board of Trade is, by clause 5, empowered to discharge the duties hitherto discharged by the Emigration Commissioners. There is, by clause 8, to be an annual survey of passenger steamers. An alteration is made, by clause 10, with regard to the payments to be made to the Trinity House Pilotage Fund by the Cinque Ports pilots. By clause 11, any pilotage authority may, if authorised in that behalf by Order in Council, grant special licences qualifying the persons to whom they are granted to act as pilots for any part of the sea or channels beyond the limits of any pilotage authority, so, however, that no pilot so licensed be entitled to super-

sede an unlicensed pilot outside the limits of the authority by which he is licensed. As to chain cables, it is provided, in clause 12, that in the event of a licence for the testing of chain cables and anchors being granted by the Trinity House under the Chain Cable and Anchor Act, 1871, all fees and other sums received by the Trinity House in respect of such testing are to be carried to the Mercantile Marine Fund, and all expenses incurred by the Trinity House in respect of such testing to be chargeable on the Mercantile Marine Fund. Fees and salaries are, by clause 14, to be paid to the Mercantile Marine Fund from which are to be paid all salaries of surveyors and emigration officers; and if any surveyor or any other person employed under the Passenger Act, 1855, demands or receives, directly or indirectly, otherwise than by the direction of the Board of Trade, any fee, remuneration, or gratuity whatever, in respect of any duties performed by him, he is, by clause 15, to be liable to a penalty not exceeding 50*l.* The owners of home trade ships may, by clause 16, enter into time agreements with seamen, in forms, to be sanctioned by the Board of Trade, which need not expire half-yearly. The last clause in the Act provides that "it shall be lawful for Her Majesty to accept from time to time the offers of any person whom the Lord High Admiral, or the Commissioners for executing his office, may recommend to serve as officers of reserve in the Royal Navy upon such terms and conditions as to Her Majesty may from time to time seem fit, and the Officers of the Royal Naval Reserve Act, 1863, shall be read and construed as if this clause formed part of the said Act."

STEAM WHISTLES IN MANUFACTORIES.

[35 and 36 Victoriæ, cap. 61.—6th August, 1872.]

An Act to regulate the use of Steam Whistles in certain Manufactories.

This short statute which contains only four clauses, enacts that no person shall use or employ in any manufactory or any other place any steam whistle or steam trumpet for the purpose of summoning or dismissing workmen or persons employed without the sanction of the sanitary authorities, and every person offending shall be liable to a penalty not exceeding 5*l.*, and to a further penalty not exceeding 40*s.* for every day during which such offence continues. The Act is not to extend to Scotland.

---

7. LOCAL GOVERNMENT

ADULTERATION OF FOOD, DRINK, AND DRUGS.

[35 and 36 Victoriæ, cap. 74.—10th August, 1872.]

An Act to amend the Law for the Prevention of Adulteration of Food, and Drink, and Drugs.

The preamble declares that the adulteration of articles of food, and drink, and drugs in fraud of Her Majesty's subjects, and to the great hurt of their health and danger of their lives requires to be repressed by more effectual laws than those existing. Clause 1 imposes a penalty not exceeding 50*l.* and costs for a first offence, and imprisonment

with hard labour for a term not exceeding 6 calendar months for the adulteration with injurious or poisonous ingredients of food or drink offered for sale. Persons selling articles knowing them to be adulterated are, by clause 2, liable to a penalty not exceeding 20*l.* with costs for a first offence, and on a second, their names, addresses, and nature of offence are to be published in the newspapers at their own cost. By clause 3, adulteration is to include mixture of substance to increase weight or bulk of things sold. Clause 4 incorporates in this Act, the Pharmacy Act, 1868 (or in Ireland, the Act to Regulate the Sale of Poisons), and the Adulteration Act, 23 and 24 Vict., c. 84. Clause 5 provides for the appointment of public analysts by the Commissioners of Sewers in the City of London, the vestries and local boards in other parts of the metropolis, and by the various local authorities throughout the provinces; such analysts are by clause 7 to report quarterly to the local authorities. By clause 6 inspectors of nuisances may submit articles to be analysed; and by clause 9, any purchaser may have an article analysed on payment of certain fees. Clause 10 enacts that articles to be analysed are to be received and retained by the appointed inspectors; and clause 11 provides for the payment of expenses incurred under the Act.

ROYAL PARKS AND GARDENS.

[35 and 36 Victoriæ, cap. 15.—27th June, 1872.]

An Act for the Regulation of the Royal Parks and Gardens.

The preamble to this Act declares the expediency of protecting from injury the parks, gardens, and possessions under the management of the Commissioners of Works, and of securing the public from molestation and annoyance while enjoying them. Clause 2 applies the Act to all parks and gardens vested in the Commissioners of Works. Clause 4 imposes a penalty not exceeding 5*l.* for an offence against the Act. Clause 5 enables park-keepers to call any persons to their assistance for the purpose of arresting offenders. Clause 6 renders an assault on a park-keeper punishable with a penalty not exceeding 20*l.*, and in default of payment, imprisonment for a term not exceeding six months, with or without hard labour. Clause 7 confers on a park-keeper the powers, privileges, and immunities of a police constable, and clause 8 gives a constable of the district where any park is situated the powers of a park-keeper. The remaining clauses, 9 to 15 contain minor details for the working of the Act, and its application to Scotland. The first schedule contains the regulations to be observed by persons using the Royal Parks, the 8th of which declares that no person shall deliver, or invite any person to deliver any public address in a park, except in accordance with the "rules of the park," which shall from time to time be made by the Ranger or Commissioners of Works. The second schedule supplies a list of the parks to which this Act refers, viz., Hyde Park, St. James's Park, the Green Park, Kensington Gardens, Parliament Square Gardens, Regent's Park, Kennington Park, Primrose Hill, Victoria Park, Battersea Park, Greenwich Park, Kew Gardens, Hampton Court, Richmond Park, Bushey Park, Holyrood Park, Linlithgow Peel or Park.

CORRUPT PRACTICES AT MUNICIPAL ELECTIONS.

[35 and 36 Victoriæ, cap. 60.—6th August, 1872.]

An Act for the better prevention of Corrupt Practices at Municipal Elections, and for establishing a Tribunal for the trial of the validity of such Elections.

The first part of the statute (clauses 3—11) refers to corrupt practices at municipal elections such as bribery, treating, undue influence, and personation, the penalties and results being mainly similar to those following similar practices at Parliamentary Elections. By clause 3, any person who is guilty of a corrupt practice at an election is to be liable to the like actions, prosecutions, penalties, forfeitures, and punishments as if the corrupt practice had been committed at an election of members to serve in Parliament. By clause 4 a candidate found guilty by an Election Court under the Act, is to be disqualified for seven years from holding certain offices enumerated in the statute, including the office of overseer or guardian of the poor. If it is found by an "Election Court" under this Act that a candidate has by an agent been guilty of any corrupt practices, the election is to be void, and there is to be an avoidance on the ground of general corruption. By clauses 7 and 8 the employment of paid canvassers and payment for the conveyance of voters are prohibited. The second part (clauses 12—21) relates to "Election Petitions." The election of any person for a borough or ward may be questioned by petition before an Election Court (clause 12). There are provisions as to the presentation of petitions in clause 13. By clause 14 a barrister without a jury is to try a petition. As soon as a municipal election list is made out, a copy is to be transmitted to each of the Judges on the rota for the trial of election petitions under the provisions of the Parliamentary Elections Act, 1868, and they are to determine the number of barristers, not exceeding five, to try such petitions. The barristers are to be of not less than 15 years' standing, and to have all the powers of a Judge on the trial of an election petition. By clause 15 the hearing is to be in open court, and various rules are given for the conduct of the proceedings. Clause 16 contains provisions as to witnesses. Clause 17 deals with the withdrawal and abatement of petitions. The remaining clauses relate to the details for carrying out the provisions of the Act as to the trial of petitions. Clause 27 states that the Act is not to apply to Scotland, but by clause 28 it is applied to Ireland subject to certain provisions. The Act repeals three former statutes 5 and 6 Will. IV, cap. 76, secs 54—56; 22 Vic., cap. 35, secs. 9—14 inclusive; 3 and 4 Vic., cap. 108, secs. 90, 91.

PUBLIC HEALTH.

[35 and 36 Victoriæ, cap. 79.—10th August, 1872.]

An Act to Amend the Law relating to Public Health.

The Act commences with the statement that its short title is to be "The Public Health Act, 1872," and that it is not to apply to Scotland or Ireland, nor, except as far as certain special provisions are concerned, to the metropolis.

Urban and Rural Sanitary Districts.

The first part of the Act, commencing with clause 3, provides for the division of the country into urban sanitary districts and rural sanitary districts, subject to the authority of local boards. Clause 4 enacts that *Urban Sanitary Districts* are to consist of (*a*) boroughs, (*b*) districts under the authority of the Improvement Commissioners, having no part of their area within a borough or local government district, and (*c*) local government districts having no part of their area within a borough, nor occupying the same ground as a borough or improvement district. The *sanitary authority* in the first class is to be vested in the mayor, aldermen, and burgesses acting by the council; in the second, in the improvement commissioners; and in the third, in the local board. When a borough is included in a local government or improvement act district, or either of the latter is included in the other, the smaller district is for sanitary purposes to be absorbed in the larger, and to be subject to the authority properly belonging to it. When a borough or improvement act district occupies the same area as a local government district, the council or improvement commissioners, and not the local board, is to be the sanitary authority. Where any part of an improvement act district is situated within a borough or local government act district, or part of a local government district is within a borough, the remainder is to be subject to the same authority for sanitary purposes as before the passing of this Act. For the purposes of the Act, Oxford, Cambridge, Blandford, Calne, Wenlock, Folkestone, and Newport, I.W., are not to be deemed boroughs, and Cambridge is to be an improvement act district. The borough of Oxford is to be included in the Oxford local government district. The part of Folkestone not included in Sandgate local government district is to be an urban sanitary district under the improvement act.

Rural Sanitary Districts are by clause 5 to consist of rural unions not coincident with or included in the area of urban districts, and the guardians of such unions are to be the sanitary authorities, provided—(1) that no elective guardian of a parish belonging to such union, and forming or included in an urban district, shall act or vote as a member of a rural sanitary authority; (2) that where part of a parish in a rural union forms or is in an urban district, the local government board shall provide for its representation by guardians in the latter district, the guardians until such an order is issued being allowed to vote for the rural district, as if the parish was not in an urban district; and (3) that an *ex officio* guardian, resident in a parish of a rural union, belonging to an urban district, shall not vote or act for the rural district, unless he is by property in the rural district qualified to serve as an elective guardian for the union.

The First Meeting of a Sanitary Authority under the Act is by clause 6 to be held within twenty-eight days after its passing, or at any other time ordered by the local government board.

The Powers and Duties of the Urban Sanitary Authorities are declared by clause 7 *and of the Rural Authorities* by clause 8, to consist in the enforcement of the Local Government Acts, the Sewage Utilisation Acts, the Nuisances Removal Act, the Common Lodging Houses, the Artisans and Labourers' Dwellings, the Baths and Wash-houses' and the Bakehouse Regulation Acts, the sanitary

authority possessing sole power in regard to these statutes, and being empowered to put the Baths and Wash-houses Act and the Artisans and Labourers' Dwellings Act in operation, if not already at work. The transference of authority under these Acts to the urban and rural sanitary authority is to take place from and after their first meeting, and after the first meeting of any sanitary authority it is by clause 9 to be invested with all property, and to be liable for all the debts belonging to the authority whose functions it has assumed.

Appointment of Officers by Sanitary Authorities.

The Appointment of a Medical Officer of Health, being a legally qualified medical practitioner, is made obligatory on every urban authority by clause 10, and each rural authority is to appoint one or more similar officers, an inspector or inspectors of nuisances, a clerk, treasurer, and other needful officers, the appointments of the medical officers and inspector first made after the passing of this Act being for a period not exceeding five years, and the powers of the local government board in regard to such officers being the same as they now hold in regard to similar officials at unions. One medical officer or inspector may act for two or more sanitary districts, and the medical officer may exercise the power of inspector of nuisances.

Clause 11 repeals the fourth section of the Artisans and Labourers' Dwellings Act of 1868, and transfers to the medical officers appointed under this or the sanitary Acts all powers and duties imposed on officers under that Act, as to reporting to the proper authorities dwellings considered by them unfit for habitation.

The Appointment and Payment of Clerk and Treasurers of urban and rural sanitary authorities is provided for by clause 12. Where these offices existed in connection with a local board before the passing of this Act, and were not filled by the same persons who acted as clerk and treasurer to the borough or improvement commissioners, the clerk and treasurer to the local board are to continue in office as before; but on their vacating office the clerk and treasurer to the council or improvement commissioners are to fulfil the duties with such additional remuneration as the authorities may determine. In rural districts the same offices are to be filled by the clerk and treasurer to the union, with such additional remuneration as the rural sanitary authority may, with the authority of the local government board, determine.

Delegation of Authority to Parochial Committees.

The Appointment of a Committee by a Rural Sanitary Authority, consisting solely of its own members for the current year of its office, is sanctioned by clause 13. One-third of the committee at least is to consist of *ex officio* guardians, or if they do not exist the number is to be made up of elected guardians, and the body thus appointed is to have full powers for the year as the sanitary authority of the district. *A Parochial Committee* may be appointed by this authority from its own members, or partly from persons paying sanitary rates, for any parish or contributory district within its limits, the new body being subject to such regulations and restrictions as the sanitary authority may determine, provided that in no case is it to exercise jurisdiction beyond the limits of its own parish, or powers other than those conferred by this Act. The number of members of the parochial com-

mittee may be increased or diminished, or it may be dissolved at any time by the sanitary authority, whose agents its members will be, observing that its existence does not relieve the authority from any of its obligations. A committee may elect a chairman, and in his absence, or if none is elected, the members present at any meeting shall choose one of their number to preside, the quorum consisting of such number as the authority may prescribe, or in the absence of any rule of three members. All questions are to be decided by a majority of votes, the chairman having a casting vote, and the proceedings are not to be invalidated by any vacancy among the members.

By section 14 the fourth clause of the Sanitary Act of 1866, which gave the sewer authority power to nominate a committee to act in its stead, is repealed.

The Powers of Local Government Board Inspectors as to right of attendance at any meetings of local boards or rural sanitary authorities when directed by the central board to do so, and their authority to hold any inquiry, to examine witnesses, and to require the production of papers and accounts, or to inspect places and matters, are declared by clause 15 to be the same as they now possess under the Poor-law Acts. The sanitary authority of Oxford is not to be deemed a local board under this section.

The Expenses of Sanitary Authorities.

The Expenses of an Urban Sanitary Authority are by clause 16 to be defrayed as provided by the Local Government Acts, if those acts were in force as regards rating immediately before the passing of this Act, or, if they were not, either out of the borough fund or rate where the council is the authority, or in the case of improvement commissioners out of any general district rate levied by them. If, however, an urban sanitary authority had, before the passing of this Act, power to levy in its district a paving, sewer, or other sanitary rate, all expenses are to be met from such rate except that if they were at the time of the passing of the Act chargeable to a borough fund or rate they are so to continue.

The Expenses of a Rural Sanitary Authority are, under section 17, to be divided into general and special. The general, consisting of the payment of officials, of cost of disinfection, conveyances for infected persons, and all other expenses not special (except those chargeable on owners and occupiers under the Sanitary Acts), are to be defrayed out of a common fund raised out of the poor-rate of each parish and contributory place according to its rateable value. Special expenses chargeable on each contributory place are to consist of cost of construction of sewers, providing water, and other expenses incurred in such place, and ordered by the local government board to be considered "special." Expenses incurred for the common benefit of two contributory places are to be apportioned to each, and the overseers, if aggrieved, may within twenty days of receipt of notice of such apportionment memorialise the local government board, whose decision is to be final.

A Contributory Place is defined as—(1) every parish not having any part of its area in a special drainage or urban sanitary district; (2) every special drainage district; (3) that part of any parish wholly situated within a rural sanitary district, and partly in a special drainage district which is not comprised in such special drainage

district; and (4) where part of a parish is within an urban sanitary district, such part of the same as is not comprised within the urban sanitary district or special drainage district.

The Raising of Contributions from Rural Sanitary Districts is by clause 18 to be provided for by the issue of precepts to the overseers of each parish and contributory district, stating amount required for special and general expenses, limit of time for payment (the overseers of parishes containing contributory districts or parts of them being regarded as their overseers), and such contributions being payable—the general from the poor-rate and the special by a levy on each parish, contributory place, or part of the same, with the same exemptions as under the sewage utilisation Act of 1867. The powers of the overseers in assessing and levying separate rates under this act are to be the same as they possess in regard to poor-rates, except that the allowance of justices are not to be required. General expenses incurred for any particular contributory place are to be met by an increase of poor-rate in such place, or by a separate rate. Poor-rate collectors are, if required by the overseers, to collect rates under this Act, receiving such additional remuneration as the overseers, with consent of the vestry, determine. Any surplus of a separate rate remaining in the overseers' hands at the expiration of their term of office is to be paid to the sanitary authority to the credit of the contributory place from which it came to be applied to the reduction of the next call made on such place.

Non-payment by Overseers of the Amount of Precepts is by clause 19 to be followed by the same process for recovery of the amount as is now in force when overseers fail to meet the precepts of guardians, and the precept of the sanitary authority is to be conclusive evidence of the amount.

Sanitary Authorities of Ports.

Clause 20 empowers the local government board to constitute, as the sanitary authority of all ports established by the customs laws of the United Kingdom, the sanitary authority whose district forms part of or abuts on any such port or its waters, or the conservators' commissioners, or others having authority over such port (described in the act as the "riparian authority"), and the board may assign to the newly-constituted port sanitary authority any powers under the Sanitary Acts, and they in their turn may delegate their powers to any other riparian authority within the district. The Lord Mayor and Corporation are to form the sanitary authority of the port of London, and to pay its expenses out of their corporate funds. The *Expenses of a Port Sanitary Authority* are to be defrayed out of a common fund contributed by the riparian authorities in proportions ordered by the local government board, and to be paid on the issue of a precept, and recoverable as a debt, or by the levying of a special rate by the port sanitary authority in the district of the defaulting riparian authority.

Alteration of Areas.

By clause 22, the local government board may—(1) dissolve one of its own districts and merge it in any sanitary district, or may add to it part of a local government district or rural sanitary district adjoining, the remainder being subject to the same authority as before; (2) it

may dissolve an Improvement Act district in a borough, and transfer the commissioners' authority to the borough council; (3) it may dissolve special drainage districts where no work has been executed from loan funds; or (4) where such work has been executed from loan funds the district may be dissolved and merged in the parish or parishes where it is situated. An order in pursuance of this section may provide for all settlement of differences and adjustment of accounts caused by such redistribution of areas. By section 23 the local government board may, by order in the *London Gazette*, convert a rural district into an urban district on application from its sanitary authority, or from ratepayers assessed at one-tenth of the rateable value of the district. Section 24 declares that any rural district thus converted into an urban district is to become a local government district, subject to a local board whose expenses are to be defrayed in the manner provided by the Local Government Acts. By section 25, after the passing of this act, the Local Government Acts are not in whole or part to be adopted anywhere without the board's consent, nor is a special drainage district to be constituted by a rural sanitary authority without their sanction.

Union of Districts.

By clauses 26 and 27 the local government board is empowered to unite districts on the application of their sanitary authorities for any purposes of the Sanitary Acts, provided—(1) that notice of such intention is published in the local newspapers of the districts affected, (2) that all costs of the union shall be a first charge on the sanitary rates leviable in the united district; and (3) that the making of the order for union shall be *primâ facie* evidence that all requisite preliminaries have been gone through.

By clause 28 *The Governing Body of the United District* is to be a joint board of such number of *ex officio* and elective members as the local government board may determine, forming a body corporate with perpetual succession, a common seal, and power to hold and acquire land without licence of mortmain. The proceedings of a board are not to be vitiated by any vacancy therein, or defect in the qualification or election of the members. Minutes of meetings signed by the chairman are to be receivable as legal evidence of the proceedings. Members of boards signing in their corporate capacity any contract, or otherwise acting on behalf of the board, are not to be subject individually to legal proceedings, and any proceedings against the board are to be defended out of the funds in its hands; but amounts disallowed by the auditors are to be paid by the members who authorised the outlay. Section 29 enacts that the provisional order for the formation of a united district is to contain full details as to the functions of the board, the qualifications of the members, the property and liability of the board, and that on its formation the power of the sanitary authorities of the component districts is to cease. By clause 30, the expenses incurred by the joint board are to be defrayed out of a common fund contributed by the component districts, and the board may borrow money under the Local Government Acts. The payment of contributions to the joint board is, by clause 31, to be enforced in the same way as the contributions of a contributory place under section 18, the joint board having the same power as a rural sanitary authority possesses over a

contributory place. The sewers of one district may, according to clause 32, be made to communicate for the purposes of outfall with those of a subjacent district, with sanction of local government board under certain stipulated conditions.

Repeal of Acts.

Clause 33 enables the local government board to repeal, alter, or amend local acts on the application of the sanitary authority, except acts for the conservancy of rivers. Compensation for abolition of office caused under this act is to be awarded to officers by the local government board, if they are not employed in offices of equal value under the sanitary authority.

Miscellaneous Provisions.

By clause 34 the consent of the local government board is to be substituted for that of the Secretary of State, in respect to the borrowing of money, giving effect to bye-laws, appointment of officers for sanitary purposes under the Local Government Acts; to the borrowing of money under the Baths and Washhouses Acts; to the appointment and removal of analysts under the Adulteration of Food and Drink Act of 23 and 24 Vict. The decision of the local government board is to be final as to what are sanitary purposes within the meaning of this section. Clause 35 transfers the powers and duties of the Board of Trade under the Alkali Act of 1803 and the Metropolis Water Acts of 1852 and 1871 to the local government board, and clause 36 makes a similar transference under the Highways and Turnpike Acts, the officers employed under these acts being also by clause 37 attached to the same board. Clause 38 provides that the salary of the medical officer of the Privy Council now attached to the local government board shall be paid by the Treasury. Clause 39 empowers the local government board to settle all differences arising out of the carrying out of the act, subject to Parliamentary confirmation, where any rate is to be made or act done beyond the powers of this act. Sanitary authorities are by clause 40 empowered to borrow money on credit of the rates for carrying out their duties under the Sanitary Acts, and by section 41 to borrow money on sewage land and plant.

The remaining clauses (41 to 60) contain provisions for the carrying out of details as to borrowing money and its repayment; the making up of the annual accounts of the sanitary authorities which are to be audited by the Poor-law auditors; the destruction of infected bedding by the authorities: the imposition of penalties on persons neglecting to carry out or obstructing the performance of duties required by the act; the *status* of the sanitary authorities as regards legal proceedings; the raising of funds to pay debts of a defaulting sanitary authority, &c. The last clause contains a full definition of the legal meaning of the terms used in the act.

ABSTRACTS OF PARLIAMENTARY AND OTHER OFFICIAL DOCUMENTS.

1. FINANCE, TAXATION, AND CURRENCY.

NATIONAL REVENUE AND EXPENDITURE.—The subjoined Tables show the GROSS PUBLIC REVENUE and EXPENDITURE of the United Kingdom in the Financial Year ended the 31st of March, 1872:—

SOURCES OF REVENUE:—	£	s.	d.
Customs	20,326,000	0	0
Excise	23,326,000	0	0
Stamps	9,772,000	0	0
Land Tax and House Duty	2,330,000	0	0
Property Tax	9,084,000	0	0
Post Office	4,680,000	0	0
Telegraph Service	755,000	0	0
Crown Lands (Net)	375,000	0	0
Miscellaneous, viz.:—Military and Naval extra Receipts and proceeds of Old Stores sold	1,177,793	16	1
Received from Revenues of India on account of Effective & Non-effective Charges of Brit. Troops	441,139	0	0
Allowance out of profits of Issue received from the Bank of England, per Act 24 Vict. c. 3	138,578	0	0
Abyssinian Expedition—Issues repaid	850,000	0	0
Other Miscellaneous Receipts	1,452,803	17	0
Total Income	74,708,314	13	1

BRANCHES OF EXPENDITURE:	£	s.	d.
Debt:			
Interest of the Permanent Debt and Management	22,156,952	3	4
Terminable Annuities	4,512,706	1	0
Interest of Unfunded Debt, &c.	169,943	3	4
Consolidated Fund Charges:—			
Civil List	406,238	17	9
Annuities and Pensions	304,879	2	5
Salaries and Allowances	103,320	11	6
Courts of Justice	649,200	10	8
Miscellaneous Services	282,966	11	2
Telegraph Sinking Fund	50,869	7	8
Supply Services:—			
Army	15,521,580	1	0
Army, Abolition of Purchase	340,000	0	0
Navy	9,900,486	0	0
Vote of Credit—War in Europe	101,096	16	3
Miscellaneous Civil Services	10,362,818	2	11
Customs and Inland Revenue Departments	2,578,093	14	6
Post Office	2,455,691	19	8
Telegraph Service	454,477	3	3
Packet Service	1,138,700	0	0
Total Ordinary Expenditure	£71,490,020	6	5
Expense of Fortifications	370,000	0	0
Total Expenditure	£71,860,020	6	5
Ordinary surplus of Income over Expenditure (deducting Expenses of Fortifications)	£3,218,294	6	8

CUSTOMS AND EXCISE.—The Produce of the two great sources of PUBLIC REVENUE, CUSTOMS and EXCISE, which together contribute considerably more than One-Half to the NATIONAL INCOME of the UNITED KINGDOM, was as follows in the financial year ended March 31, 1872, the sums representing Gross Receipts:—

CUSTOMS DUTIES on Articles usually contributing not less than £1,000 Annually.	Gross Receipts. £	s.	d.
Beer Spruce	2,178	7	9
—— Of other Sorts, including Mum	973	2	6
Chicory	104,080	11	8
Cocoa, Cocoa Husks, and Chocolate	31,743	15	4
Coffee	366,705	12	6
Currants	299,552	3	2
Figs	30,618	7	11
Ginger, Preserved	930	16	4
Plate, Gold, and Silver	4,388	15	9
Plums, Dried or Preserved, French Plums and Prunelloes	3,997	4	10
Prunes	8,660	5	8
Raisins	132,920	19	10
Spirits, Colonial and Foreign:—			
Rum	2,081,653	1	4
Brandy	1,944,028	0	6
Geneva	87,105	16	10
Of other Sorts	414,180	19	8
Succades and Confectionery, including Fruits and Vegetables preserved in Sugar	5,400	11	2
Sugar, Unrefined	2,891,742	4	8
—— Refined, and Sugar Candy	485,640	11	9
—— Molasses	37,280	7	3
Tea	3,081,844	9	11
Tobacco and Snuff	6,843,093	18	11
Wine	1,649,586	6	5
All other Articles	5,276	6	7
	£20,513,582	18	3
Duties collected on behalf of the Inland Revenue on the delivery for Home Consumption of British Spirits deposited in the Customs Warehouses (under Act 27 & 28 Vict., c. 11)	2,273,480	7	4
Payments on account thereof to the Inland Revenue	—	—	—
Charges on delivery from the Bonded Warehouses (for the Quarter ended 31st March, 1872)	9,495	13	7
Duties collected at the Isle of Man	43,397	14	0
Payments on account thereof under 29 & 30 Vict., c. 23	—	—	—
Total Customs	£22,839,956	13	2
Deductions on account of Drawbacks, Repayments on Over Entries, &c.	2,596,912	3	10
	£20,243,044	9	4

EXCISE DUTIES.	Gross Receipts. £	s.	d.
Chicory	14,454	1	5
Licences, viz.:			
Auctioneers, Appraisers, &c.	64,228	0	0
Beer, Cider, and Perry	368,495	16	8
Brewers	428,250	5	9
Dog	279,425	0	0
Establishment, viz.:			
Armorial Bearings	86,652	4	0
Carriages	524,206	11	6
Horses	433,277	0	0
Male Servants	198,946	5	0
Game	189,824	0	0
Gold and Silver Plate	34,148	7	9
Gun	62,437	10	0
Hawkers and Pedlars	19,878	7	0
Horse Dealers	18,425	0	0
Malsters	16,087	7	1½
Medicine Vendors	7,138	15	0
Pawnbrokers	35,032	10	0
Refreshment House	5,526	0	4½
Spirit (Distillers, Dealers, and Publicans)	753,228	10	1½
Tobacco	84,836	3	10½
Wine and Sweets	193,842	17	4½
Other than the foregoing	5,115	9	1
Malt	6,910,366	18	7½
Race Horses	9,521	1	0
Railways	527,567	11	3½
Spirits	12,779,978	19	3
Sugar	107,015	17	5½
Total Excise	£24,157,906	9	8
Drawbacks, Discounts and Allowances	£771,842	15	3½
Net Produce	£23,386,063	14	4½

STAMPS.—The following table gives the gross receipts from Stamps in the United Kingdom during the financial year ended the 31st of March, 1872:—

	Gross Receipts. £	s.	d.
Deeds and other Instruments, not included under the following heads	1,858,771	17	9½

	Gross Receipts. £	s.	d.
Probates of Wills and Letters of Administration	1,989,133	0	5
Bills of Exchange	859,350	17	5
Bankers' Notes	1,372	5	10
Composition for the Duties on the Bills and Notes of the Banks of England and Ireland, and of Country Bankers	139,469	14	5
Receipts, Drafts and other 1*d.* Stamps	676,290	3	2
Marine Insurances	110,655	1	3
Licenses and Certificates	132,079	0	0
Medicine	86,516	18	3
Legacies and Successions	3,371,800	8	3½
Gold and Silver Plate	67,629	12	11
Cards	12,264	2	6
Patents for Inventions	125,273	0	0
Arrears of Fire Insurance	293	9	5
	£9,430,899	11	7¾
Fee Stamps, viz.:			
Admiralty Court	7,034	9	0
Bankruptcy Court	50,707	13	9
Chancery Court	112,329	15	8
Chancery Fund	3,907	9	1¼
Civil Bill Fund	14,425	15	0
Civil Service Commission	3,360	12	6
Common Law Courts	76,201	19	0
Companies Registration	17,873	18	6
Copyhold, &c., Commission	7,831	17	6
Crown Office	4,479	0	0
Divorce and Matrimonial Causes	3,265	9	0
Great Seal Patent	73	0	0
Judgments Registry Fund	3,463	18	10
Land Registry	597	10	0
Law Fund	9,482	15	4
London Gazette	18,689	5	0
Lord Chancellor's Presentation	350	0	0
Naturalisation	640	0	0
Probate Court	149,772	14	2
Public Record	637	0	0
Record of Title	32	12	0
Register House, Scotland	34,114	17	4
Registration of Deeds	12,096	15	9
	£531,368	7	5¼
Gross Total	£9,962,267	19	1
Drawbacks, Discounts, Allowances, &c.	£222,720	2	9½
Net Produce	£9,739,547	16	3¾

NATIONAL REVENUE FROM 1857 TO 1872.—The following table shows the total gross amounts of the National Revenue in each of the fifteen financial years ended March 31, from 1857 to 1872, as well as the proportion of receipts per head of population of the United Kingdom:—

Years ended March 31.	Amounts of Revenue. £	Proportion of Receipts per head of Population of United Kingdom. £	s.	d.
1857	72,334,062	2	12	1
1858	67,881,513	2	8	3
1859	65,477,284	2	6	3
1860	71,089,669	2	9	10
1861	70,283,674	2	8	11
1862	69,674,479	2	8	3
1863	70,603,561	2	8	4
1864	70,208,964	2	7	7
1865	70,313,437	2	7	0
1866	67,812,292	2	5	1
1867	69,434,568	2	5	8
1868	69,600,218	2	5	6
1869	72,591,991	2	6	8
1870	75,434,252	2	8	4
1871	69,945,220	2	4	5
1872	74,708,314	2	7	3

NATIONAL EXPENDITURE FROM 1857 TO 1872.—The following table exhibits the total amount of National Expenditure in each of the fifteen financial years, ended March 31, from 1857 to 1872, together with the proportion of expenditure per head of population of the United Kingdom:—

Years ended March 31.	Amounts of Expenditure. £	Proportion of Payments per Head of Population of United Kingdom. £	s.	d.
1857	75,588,667	2	14	4
1858	68,128,859	2	8	5
1859	64,663,882	2	5	8
1860	69,502,289	2	8	8
1861	72,792,059	2	10	8
1862	71,116,485	2	9	11
1863	69,302,008	2	8	2
1864	67,056,286	2	6	0
1865	66,462,207	2	5	0
1866	65,914,357	2	4	2
1867	66,780,396	2	4	0
1868	71,236,242	2	6	6
1869	74,972,816	2	8	6
1870	68,864,752	2	4	0
1871	69,548,539	2	4	3
1872	71,490,020	2	5	0

NATIONAL DEBT.—The following table shows the annual charge on the total amount of the Unredeemed Funded Debt for the financial year ended the 31st of March, 1872:—

Great Britain.	Annual Charges. £	s.	d.
Unredeemed Capital	20,790,325	10	4½
Annuities, per 18 Vict., c. 18, expiring 5 April, 1885	116,000	0	0
Annuities, per 23 & 24 Vict., c. 109, and subsequent Acts, expiring 5 April, 1885 (Fortifications)	420,085	0	0
Annuities, per 26 Vict., c. 14, expiring 5 April, 1885	9,983	7	3
Annuities, per 32 & 33 Vict., c. 59, and 29 Vict., c. 5, expiring at various dates in 1885 (payable yearly)	2,966,164	0	0
Annuities for a limited Term of Years, per 10 Geo. 4, c. 24, and 3 Will. 4, c. 14, expiring at various periods	45,329	4	0
Red Sea Telegraph Company's Annuity, 25 & 26 Vict., c. 39.	36,000	0	0
Life Annuities, 48 Geo. 3, c. 142, and subsequent Acts	937,705	19	4
English Tontine Annuities, 29 Geo. 3	12,510	5	6
Irish Tontine Annuities, 13 & 14, 15 & 16 and 19 & 20 Geo. 3 (Irish Acts), payable in Great Britain.	15,830	11	0
Management	213,336	3	10
Total Debt at 31st March, 1871	25,563,270	1	3¾
Debt created or transferred from Ireland between 31st March 1871 and 31st March, 1872:—			
Capital transferred from the Funded Debt in Ireland to the Funded Debt in Great Britain, 5 Geo. 4, c. 53.	32,165	4	6½
Capital raised and inscribed for the purposes of the Telegraph Acts, 1868-69, per 32 & 33 Vict., c. 73, ss. 13 and 15.	8,662	14	2¾
Capital raised and inscribed for the purposes of the Telegraph (Money) Act, 1871, per 34 & 35 Vict., c. 75	32,371	5	9½
Capitals retransferred from the Commissioners for the Reduction of the National Debt, the Dividends upon which had remained unclaimed 10 years and upwards, the same having been reclaimed by the proprietors thereof 56 Geo. 3, c. 60.	1,086 4	5 7	5½ 1
Annuities for a limited Term of Years, granted per 10 Geo. 4, c. 24.	1,221	11	0
Annuities (expiring 1885), granted per Act 30 & 31 Vict., c. 145, and 32 & 33 Vict., c. 76 (Fortifications)	36,341	0	0
Life Annuities, granted per 10 Geo. 4, c. 24, 3 Will. 4, c. 14, 16 & 17 Vict., c. 45, and 27 & 28 Vict., c. 43.	56,886	3	0
Contributors' Shares, Tontine 1789, increased	209	4	9
Management increased	473	10	0
Total Debt created or transferred in Great Britain, between 31st March, 1871, and 31st March, 1872	169,421	5	9¾
General Total, Great Britain	£25,732,691	7	1

Ireland.	Annual Charges. £	s.	d.
On 31st March, 1871:—			
To Unredeemed Capital	1,137,590	7	9
To Management.	10,586	1	9
Total Debt at 31st March, 1871	£1,148,176	9	6
Debt increased between 31st March, 1871 and 31st March, 1872:—			
To Capital transferred from the Funded Debt in Great Britain to the Funded Debt in Ireland, 5 Geo. 4, c. 53	23,551	2	4¾

Ireland—contd.	Annual Charges. £	s.	d.
To Capitals retransferred from the Commissioners for the Reduction of the National Debt, the Dividends on which had remained unclaimed 10 years or upwards, the same having been reclaimed by the proprietors, 23 & 24 Vict., c. 71 . . .	91	10	2¾
Total Debt created or transferred in Ireland, between 31st March, 1871 and 31st March, 1872 . . .	23,642	12	7½
General Total, Ireland .	£1,171,819	2	1½

The following statement gives the summary of the charges on account of the National Debt for the financial year ended the 31st of March, 1871:—

	£	s.	d.
Total unredeemed debt on 31st March, 1871:—			
Great Britain	25,563,270	1	3½
Ireland	1,148,176	9	6
	£26,711,446	10	9½
Debt created or transferred between 31st March, 1871, and 31st March, 1872:—			
Great Britain	169,421	5	9¾
Ireland	23,642	12	7½
	193,063	18	5¼
Total	£26,904,510	9	2½

COINAGE OF THE ROYAL MINT.—The real value of the coinage issued by the Royal Mint in each of the seventeen years 1855 to 1871, was as follows:—

	Total. £
1855 ..	9,245,264
1856 ..	6,476,060
1857 ..	5,239,810
1858 ..	1,690,359
1859 ..	3,305,085
1860 ..	3,378,102
1861 ..	8,673,232
1862 ..	8,337,731
1863 ..	7,310,032
1864 ..	10,088,861
1865 ..	2,926,839
1866 ..	5,620,716
1867 ..	723,540
1868 ..	1,971,068
1869 ..	7,469,644
1870 ..	2,682,886
1871 ..	10,628,786

CUT GOLD COIN.—The following return shows the amount of Gold Coins Cut by the Bank of England during the three years preceding the 31st day of March, 1872, and the loss which the owners of the coins sustained thereby:—

Year ending	Gold Coins Cut (Nominal Value). £	Loss sustained. £	s.	d.
31 March, 1870.	482,562	6,176	6	10
31 March, 1871.	799,543	10,379	10	2
31 March, 1872.	693,611	8,859	8	8
Total ..	1,975,716	25,415	5	8

2. GENERAL COMMERCE AND NAVIGATION.

IMPORTS INTO THE UNITED KINGDOM.—The following table gives the quantities of the chief articles imported into the United Kingdom in the year ended the 31st of December, 1871:—

	Imports.	
Animals:—		
Oxen, Bulls, Cows, and Calves .	No.	248,911
Sheep and Lambs . .	,,	916,799
Bacon and Hams . .	Cwts.	1,083,021
Beef	,,	301,184
Bones, except Whalefins	Tons	100,857
Brimstone	Cwts.	937,049
Bristles	Lbs.	2,902,341
Butter	Cwts.	1,337,808
Candles, Stearine . .	,,	83,236
Caoutchouc	Cwts.	161,586
Cheese	,,	1,219,056
Clocks	No.	325,667
Cocoa	Lbs.	17,365,029
Coffee	,,	191,992,781
Corn, Wheat	Cwts.	39,389,803
—— Barley	,,	8,569,012
—— Oats	,,	10,912,204
—— Maize	,,	16,820,223
—— Other kinds . .	,,	4,262,636
—— Flour of Wheat .	,,	3,977,939
—— Of other kinds .	,,	19,390
Total of Corn . . .	,,	83,951,207
Cotton, Raw	,,	15,876,248

Imports.		
Dyeing (or Tanning) Stuffs:—		
Cochineal, Granilla, and Dust	Cwts.	54,542
Cutch and Gambier	Tons	30,707
Garancine	Cwts.	27,808
Indigo	,,	135,901
Madder	,,	90,706
Madder Root	,,	150,525
Shumach	Tons	16,481
Valonia	,,	27,706
Eggs	No.	402,132,720
Fish	Cwts.	605,330
Flax and Hemp:—		
Flax, Dressed and Undressed	,,	2,142,482
Tow or Codilla of Flax and Hemp	,,	518,483
Hemp and other like Substances (except Jute), Dressed and Undressed	,,	1,245,024
Jute	,,	3,454,386
Fruits:—		
Currants	Cwts.	1,052,126
Raisins	,,	427,055
Oranges and Lemons	Bush.	2,402,452
Glass of all Kinds	Cwts.	632,983
Guano	Tons	178,678
Gutta-percha	Cwts.	25,966
Hair:—		
Goats' Hair or Wool	Lbs.	8,672,631
Hides, Tanned and Untanned	Cwts.	1,438,483
Hops	,,	220,409
Lard	,,	477,147
Leather Gloves	Pairs	13,377,036
Metals:—		
Copper Ore and Regulus	Tons	78,691
Copper, Unwrought and part Wrought, and old Copper	Cwts.	650,840
Iron, in Bars, Unwrought	Tons	74,538
Iron and Steel Wrought or Manufactured	Cwts.	446,040
Lead, Pig and Sheet	Tons	65,167
Silver Ore	,,	7,389
Tin, in Blocks, Ingots, Bars, or Slabs, and Regulus	Cwts.	170,660
Zinc, Crude, in Cakes	Tons	20,968
—— Manufactures	Cwts.	175,846
Oil, Fish	Tuns	24,963
—— Palm	Cwts.	1,031,635
—— Cocoa Nut	,,	192,352
—— Olive	Tuns	38,183
—— Seed	,,	10,461
—— Turpentine	Cwts.	144,207
Oil Seed Cake	Tons	162,613
Paper, for Printing or Writing	Cwts.	157,283
Petroleum, Unrefined	Galls.	453,852
—— Refined	,,	8,526,674
Pork	Cwts.	297,585
Potatoes	,,	852,125
Pyrites of Iron or Copper, or Sulphur	Tons	452,047

Imports.		
Rags and Paper-making Materials:—		
Rags	Tons	26,757
Esparto and other Materials	,,	154,355
Rice, not in the Husk	Cwts.	4,569,323
—— in the Husk	Qrs.	66,380
Rosin	Cwts.	744,906
Saltpetre	,,	341,618
—— Cubic Nitre	,,	1,444,341
Seeds:—		
Clover and Grass	,,	340,377
Cotton	Tons	174,392
Flax and Linseed	Qrs.	1,334,945
Rape	,,	665,161
Silk Knubs or Husks and Waste	Cwts.	38,594
Silk, Raw	Lbs.	8,251,486
—— Thrown	,,	179,436
Skins:—		
Sheep and Lamb, Undressed	No.	8,460,328
—— Tanned, Tawed or Dressed	,,	2,156,979
Seal, in the Hair, Undressed	,,	833,709
Goat, Undressed	,,	1,047,692
—— Tanned, Tawed or Dressed	,,	4,035,978
Spices:—		
Cinnamon	Lbs.	1,574,946
Pepper	,,	23,589,952
Of all other sorts	,,	11,164,191
Spirits:—		
Rum	Pf. Gals.	7,526,890
Brandy	,,	5,228,568
Other Foreign and Colonial Spirits	,,	1,961,633
Total of Spirits	,,	14,717,091
Sugar, Refined and Sugar Candy	Cwts.	1,640,949
—— Raw	,,	12,126,508
—— Molasses	,,	628,163
Tallow and Stearine	,,	1,482,397
Tea	Lbs.	169,898,303
Teeth, Elephants', Sea-Cow, and Sea Horse	Cwts.	12,548
Tobacco, Manufactured, Cigars, and Snuff	Lbs.	3,852,236
—— Unmanufactured	,,	73,042,305
Wine	Gals.	18,224,899
Wood and Timber:—		
Hewn	Loads	1,648,635
Sawn or Split	,,	2,848,501
Staves	,,	88,119
Mahogany	Tons	29,256
Wool,—Sheep, Lamb, Alpaca, and the Llama Tribe	Lbs.	323,036,299
Woollen Rags	Tons	22,968
Woollen and Worsted Yarn:—		
Berlin Wool and Yarn used for Fancy Purposes	Lbs.	464,058
Yarn for Weaving	,,	11,620,346
Yeast, Dried	Cwts.	133,740

EXPORTS OF HOME PRODUCE FROM THE UNITED KINGDOM.—The following table shows the quantities of the chief articles of British and Irish produce and manufactures exported from the United Kingdom in the year ended the 31st of December, 1871:—

Exports.

Alkali	Cwts.	4,225,288
Animals: Horses	No.	7,246
Arms and Ammunition:—		
Firearms (Small)	No.	454,499
Gunpowder	Lbs.	18,678,487
Bags, Empty	Dozs.	2,841,307
Beer and Ale	Brls.	484,852
Books, Printed	Cwts.	62,312
Butter	,,	56,297
Candles, of all sorts	Lbs.	5,550,367
Carriages, Railway	No.	3,786
Cement	Cwts.	3,875,503
Cheese	,,	22,421
Coals, Cinders, and Fuel	Tons	12,816,434
Cordage and Twine	Cwts.	133,016
Corn: Wheat	,,	3,293,406
—— Wheat Flour	,,	657,297
Cotton Yarn	Lbs.	193,482,125
Cotton Manufactures:		
Piece Goods, White or Plain	Yds.	2,397,499,083
——, Printed, Checked, or Dyed	,,	991,204,750
——, of Mixed Materials	,,	22,197,689
Total of Piece Goods	,,	3,410,901,522
Stockings	Doz. Prs.	890,112
Thread for Sewing	Lbs.	7,516,007
Fish: Herrings	Brls.	679,719
Glass: Plate	Sq. Ft.	1,647,757
—— Flint	Cwts.	106,768
—— Common Bottles	,,	648,589
—— Of other Sorts	,,	91,062
Hats of all Sorts	Dozs.	453,714
Leather, Tanned, Unwrought	Cwts.	140,378
—— Wrought, Boots, and Shoes	Lbs.	510,648
—— of other Sorts	,,	2,736,349
Linen and Jute Yarn:		
Linen Yarn	,,	36,397,781
Jute Yarn	,,	13,729,998
Linen and Jute Manufactures:		
Linen Manufactures:		
White or Plain	Yds.	207,083,423
Printed, Checked, or Dyed	,,	9,814,188
Sailcloth and Sails	,,	4,068,490
Total of Piece Goods	,,	220,966,101
Thread for Sewing	Lbs.	2,885,855
Jute Manufactures	Yds.	62,583,244
Metals:		
Iron, Old, for remanufacture	Tons	138,831
Iron Pig, and Puddled	Tons	1,061,004
—— Bar, Angle, Bolt, and Rod	,,	349,126
—— Railroad, of all Sorts	,,	979,017
—— Wire	,,	26,057
—— Hoops, Sheets, and Boiler Plates	,,	201,319
—— Tinned Plates	,,	119,755
—— Cast or Wrought, and all other manufactures	,,	244,327
—— Steel, unwrought	,,	39,170
—— Manufactures of Steel, or of Steel and Iron combined	,,	12,957
Total of Iron and Steel.	,,	3,171,581
Copper, Unwrought:—		
Ingots, Cakes or Slabs	Cwts.	279,155
—— Wrought or partly Wrought:—		
Mixed or Yellow Metal	,,	259,498
Of other Sorts	,,	247,545
Brass of all Sorts	,,	70,232
Lead, Pig, Sheet, and Pipe	Tons	44,787
Tin, Unwrought	Cwts.	114,311
Zinc, Wrought and Unwrought	,,	129,431
Oil, Seed	Gals.	11,045,260
Paper (other than Hangings)	Cwts.	229,365
Salt	Tons	892,390
Silk Manufactures:—		
Broad Piece Goods	Yds.	5,161,845
Soap	Cwts.	173,461
Spirits, British	Galls.	1,614,881
Sugar, Refined	Cwts.	779,746
Wool, Sheep and Lambs	Lbs.	11,968,813
Woollen and Worsted Yarn	,,	43,726,671
Woollen and Worsted Manufactures:—		
Cloths, Coatings, &c., Unmixed and Mixed	Yds.	35,548,448
Flannels, Blankets, Blanketing, and Baizes	,,	13,775,721
Worsted Stuffs, Unmixed and Mixed	,,	307,668,058
Carpets and Druggets	,,	10,969,934

EXPORTS OF FOREIGN AND COLONIAL PRODUCE FROM THE UNITED KINGDOM.—The following table gives the quantity of the exports of foreign and colonial merchandize from the United Kingdom, in the year ended the 31st of December, 1871:—

Bark, Peruvian	Cwts.	18,012
Caoutchouc	,,	65,443

Chemical Manufactures and Products	Value, £	145,689
Cocoa	Lbs.	11,342,206
Coffee	,,	172,648,940
Corn, Wheat	Cwts.	639,607
—— Wheatmeal or Flour	,,	344,954
Cotton, Raw	,,	3,093,104
Cotton Manufactures:—		
Piece Goods	Pieces	338,679
Other Articles	Value £	183,132
Drugs, Unenumerated	,,	269,297
Dyeing Stuffs:—		
Cochineal, Granilla, and Dust	Cwts.	30,564
Indigo	,,	89,173
Madder	,,	2,843
Madder Root	,,	2,344
Flax and Hemp:—		
Flax, Dressed and Undressed	,,	72,346
Tow or Codilla of Hemp and Flax	,,	11,039
Hemp and other like Substances (except Jute), Dressed and Undressed	,,	103,499
Jute	,,	575,177
Fruit:—		
Currants	,,	178.282
Raisins	,,	71,703
Guano	Tons	5,526
Hair, Manufactures of, and of Goats' Wool	Val. £	34,350
Hides, Tanned and Untanned	Cwts.	404,387
Metals:—		
Copper, Unwrought, Part Wrought, and old Copper	Tons	17,253
Iron in Bars, Unwrought	,,	20,274
Zinc, Crude, in Cakes	,,	1,562
Tin, in Blocks, Ingots, Bars, or Slabs, and Regulus	Cwts.	41,198
Oil, Palm	,,	509,266
—— Cocoa Nut	,,	170,083
—— Olive	Tuns	2,741
Opium	Lbs.	307,399
Quicksilver	,,	2,830,388
Rice, not in the Husk	Cwts.	2,466,475
Saltpetre	,,	27,090
—— Cubic Nitre	,,	115,423
Seeds, Flax and Linseed	Qrs.	28,082
—— Rape	,,	278,709
Silk, Raw	Lbs.	3,269,775
—— Thrown	,,	41,156
Silk Manufactures	Val. £	683,307
Spices, Cinnamon	Lbs.	1,542,545
—— Pepper	,,	19,474,217
Spirits:—Proof		
Rum	Gallons	1,680,289
Brandy	,,	420,324
Geneva, and other Foreign and Colonial Spirits	,,	1,887,928
Total of Spirits		3,988,541
Sugar, Foreign, Refined, and Candy	Cwts.	56,037
—— Unrefined	,,	295,400
—— Molasses	,,	43,654
Tea	Lbs.	42,011,102
Teeth, Elephants', Sea Cow, and Sea Horse	Cwts.	7,519
Tobacco, Stemmed	Lbs.	790,352
—— Unstemmed	,,	13,463,215
—— Manufactured, viz:—		
Cigars	,,	264,291
Other Sorts	,,	1,602,252
Wine	Gallons	1,862,587
Wool, Sheep, Lamb, Alpaca, and Llama	Lbs.	134,866,304

Export Markets of the United Kingdom.—The following table compiled from returns of the Board of Trade gives the declared real value of British and Irish produce and manufactures exported from the United Kingdom to Foreign countries and British possessions in the year ended the 31st of December, 1871:—

I. Foreign Countries.

	£
Russia, Northern Ports	5,180,083
—— Southern Ports	1,373,307
Sweden and Norway	2,173,921
Denmark, the Duchies, and Iceland, up to 1860	1,751,803
—— Danish West Indies	496,366
Germany, exclusive of the Duchies up to 1860	27,353,383
Holland	14,121,537
—— Java, and other Possessions in the Indian Seas	823,572
Belgium	6,286,835
France	18,061,302
—— Algeria	125,325
—— Possessions in Senegambia	11,342
—— Possessions in India	—
Portugal	1,744,371
—— Azores and Madeira	160,831
Spain	3,122,390
—— Canary Islands	206,844
—— Fernando Po	13,970
—— West India Islands	2,878,381
—— Phillipine Islands	463,259
Italy, exclusive of Venetia from 1857 to 1860	6,254,171
Austrian Territories, including Venetia from 1857 to 1860	1,584,635
Greece	769,868
Turkey	5,937,537
—— Wallachia and Moldavia	701,818
Egypt	6,814,675
Morocco	197,501
United States	34,229,108
Mexico	1,060,981
Central America	297,811
Haiti and San Domingo	335,626
New Granada (United States of Columbia)	2,645,187
Venezuela	300,910
Ecuador	60,137

	£
Brazil	6,311,063
Uruguay	1,037,682
Argentine Confederation	2,474,985
Chili	2,031,699
Peru	2,154,709
China (exclusive of Hong Kong)	6,629,390
Japan	1,581,834
Western Coast of Africa	1,003,726
Other Countries	572,469
Total of Foreign Countries	171,336,344

II. British Possessions.

Channel Islands	807,802
Gibraltar	1,058,591
Malta	704,988
Ionian Islands (ceded to Greece, 1st June, 1864).	Countries.
North American Colonies:	
British Columbia	79,113
Hudson's Bay Co. Settlements	7,575,351
Canada	
New Brunswick	
Nova Scotia	
Newfoundland	492,459
Prince Edward Island	149,417
Total of North American Colonies	8,296,340
West India Islands and Guiana	2,940,227
British Honduras	159,925
Australia:	
West Australia	70,200
South Australia	1,323,696
Victoria	4,244,331
New South Wales	2,530,005
Queensland	343,628
Tasmania	157,685
New Zealand	1,364,374
Total of Australia	10,033,919
British India	18,003,266
The Straits Settlement	1,934,988
Ceylon	927,859
Hong Kong	2,774,114
Mauritius	502,979
Cape of Good Hope and Natal	2,197,787
Possessions on the River Gambia	35,047
Sierra Leone	200,590
Possessions on the Gold Coast	442,982
Other Possessions	162,029
Total of British Possessions	51,183,433
Total of Foreign Countries and British Possessions	222,519,777

Trade of our Ports.—As in 1870, so in 1871, more than ten millions sterling—nearly half the entire Customs' duties of the kingdom—were received in the port of London. The amount collected at Liverpool approached three millions sterling, and three millions were received in other ports of England; two and a half millions in Scotland, and nearly two millions in Ireland. Next to London and Liverpool, the largest receipt of customs' duties is at Greenock, where the collection in 1871 amounted to 979,775*l*. At Dublin 885,844*l*. was received; at Bristol, 878,621*l*.; at Glasgow, 847,941*l*.; Leith, 344,809*l*.; Belfast, 341,621*l*.; Cork, 315,187*l*.; Newcastle, 279,493*l*.; Hull, 241,567*l*. These are the eleven chief places of receipts of customs, five in England, three in Scotland, three in Ireland. The returns for 1871 show the usual fluctuations in the amount of duty collected at the various ports. The largest increase of Customs' revenue in 1871, as compared with 1870, was at Liverpool—viz., 152,368*l*. The condition of the trade of Liverpool was indeed most flourishing and prosperous in 1871. The vessels arriving in that port from foreign parts increased to 5,532, of 4,057,010 tons, and the vessels clearing outwards increased to 5,505, of 4,005,949 tons. The importation of tobacco appears to be concentrating at this port. The British and Irish exports from the port of Liverpool reached the value of 87,781,393*l*., the highest point they have ever yet attained. Glasgow shows more Customs' duties collected in 1871 than in 1870 by 42,982*l*.; Belfast more by 42,946*l*.; Dublin more by 14,399*l*. The amount collected at Leeds, 118,966*l*., shows an increase of 29,244*l*., the merchants continuing to avail themselves more freely of the bonding privileges at this place; at Port Glasgow the amount collected—viz. 18,330*l*.—shows an increase of 16,114*l*., caused by importations of sugar at this place in consequence of want of accommodation at Greenock. At Manchester the collection was 133,603*l*., an increase of 7,605*l*.; the business there is steadily increasing. At Newcastle, where trade is very prosperous, the increase is 8,310*l*.; at Plymouth, 15,357*l*, owing to the reopening of a sugar refinery; at Southampton 5,313*l*., the general trade of the port having much increased since the close of the war; at Granton 38,692*l*., with still a great demand for further warehouse accommodation by the Edinburgh merchants; at Sunderland 7,838*l*., and at Whitehaven 5,347*l*., both these ports reporting an increasing trade. The instances in which the Customs duties fell off are generally accounted for by casual and temporary causes, leading to revenue being paid through a different channel. The largest decrease is of 120,947*l*., at Bristol, owing to the reduction of the sugar duties, and to duties on tobacco and sugar being paid at other ports; and similar causes account for the decrease of 59,761*l*. at Leith. There is a decrease of 114,988*l*. at Greenock, 53,537*l*. at Hull, 38,112*l*. at Grimsby, 24,834*l*. at Cork; but at all these places the trade of the port is increasing. From north and south, from east and west, the reports show properity and progress. In the Port of London the vessels arriving increased to 11,405 in 1871, and the vessels

clearing outwards to 9,069. The receipts of Customs' duties at this port in 1871 averaged 563*l.* per working day, and the amount 32,785*l.*

SHIPBUILDING IN THE UNITED KINGDOM.—A return compiled by the Registrar-General of Shipping and Seamen shows the number and tonnage of vessels, the building of which was completed in the year 1871, at each port in the United Kingdom. The totals are these:—In England, 787 vessels, of 252,925 tons; in Scotland, 227, of 130,230 tons; in Ireland, 8, of 7,903 tons; making 1,022 vessels, of 391,058 tons. At Newcastle there were also built two iron and two composite steam vessels for war purposes, which have not been measured. The return shows also the vessels, in course of construction on the last day of 1871 at each port of the United Kingdom, and the totals are these:—In England, 457 vessels, of 188,673 tons; in Scotland, 247 vessels, of 226,248 tons (a larger tonnage than in England); in Ireland, 6 vessels, of 12,737 tons; making in all 710 vessels, of 427,658 tons, building at ports of the United Kingdom, besides 97 vessels (57 of them at Newcastle), the tonnage of which has not been ascertained, in consequence of the builders' inability or refusal to furnish the particulars. The above total, relating to vessels in course of construction in the United Kingdom at the close of the year 1871, is constituted as follows:—Sailing vessels, 272, of 46,762 tons—viz., 23 iron vessels, of 14,698 tons, and 249 wood, of 32,064 tons; steam vessels, 438, of 380,896 tons,—viz., 421 iron vessels, of 379,675 tons, 16 wood, of 1,121 tons, and 1 composite, of 100 tons; making together 444 iron vessels, of 394,373 tons; 265 wood, of 33,185 tons; and 1 composite, of 100 tons. There are 25 ports, showing above 1,000 tons in course of construction on the 31st of December, 1871—viz., Glasgow 141 vessels, of 155,168 tons; Sunderland 88, of 70,298 tons; London 46, of 23,598 tons; Greenock 21, of 22,817 tons; Port Glasgow 29, of 20,280 tons; Hull 20, of 19,461 tons; Belfast 6, of 12,737 tons, Liverpool 16, of 11,870 tons; Stockton 11, of 8,817 tons; Shields 21, of 8,544 tons; and South Shields 13, of 3,514 tons; Dundee 10, of 8,261 tons; Aberdeen 13, of 7,414 tons; West Hartlepool 9, of 6,485 tons; and Hartlepool 7, of 4,186 tons; Kirkcaldy 5, of 3,977 tons; Whitehaven 4, of 3,701 tons; Newcastle 6, of 3,243 tons, besides the 57 vessels (all steamers, and 54 of them iron) whose tonnage has not been returned; Bristol 9 vessels, of 2,147 tons; Borrowstoness 3, of 1,845 tons; Leith 2, of 1,800 tons; Plymouth 11, of 1,712 tons; Banff 7, of 1,402 tons; Bideford 10, of 1,356 tons; Workington 1, of 1,050 tons. The return for Middlesbrough shows only two vessels, of 930 tons, but 15 other vessels (all steamers, and of iron) were also building, the tonnage of which is not stated. Cardiff returns one vessel of 615 tons, but does not return the measurement of the other five vessels building, two of them steamers, and of iron.

NAVIGATION RETURNS.—The subjoined table shows the tonnage of British and Foreign vessels (sailing and steam) entered and cleared, *with cargoes*, at ports in the United Kingdom, from and to foreign countries and British Possessions, from 1857 to 1871:—

Years.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1857 ..	5,427,534	3,304,272	8,731,806	6,208,723	4,130,850	10,339,573
1858 ..	5,234,424	3,583,113	8,817,537	5,879,906	4,062,518	9,942,424
1859 ..	5,391,925	3,698,718	9,090,643	6,222,746	4,021,217	10,243,963
1860 ..	5,760,537	4,294,444	10,054,981	6,358,917	4,424,020	10,782,937
1861 ..	6,307,737	4,297,442	10,605,179	6,841,808	4,477,996	11,319,804
1862 ..	6,591,654	4,149,154	10,740,808	7,400,454	4,309,395	11,709,849
1863 ..	7,302,039	3,835,319	11,137,358	7,961,008	3,926,797	11,887,805
1864 ..	7,813,179	3,488,931	11,302,110	8,596,234	3,576,540	12,172,774
1865 ..	8,356,914	3,801,780	12,158,694	9,056,729	3,770,422	12,827,151
1866 ..	9,215,820	4,061,370	13,277,190	9,954,147	4,055,947	14,010,094
1867 ..	9,356,814	3,984,634	13,341,448	10,586,058	4,261,523	14,847 581
1868 ..	9,572,450	4,279,207	13,851,657	10,902,171	4,570,848	15,473,019
1869 ..	10,042,182	4,444,518	14,486,700	11,313,757	4,603,227	15,916,984
1870 ..	10,308,952	4,601,790	14,910,742	11,934,087	4,779,851	16,713,938
1871 ..	11,250,120	5,205,222	16,455,342	13,396,583	5 560,872	19,047,455

3. TRADE AND AGRICULTURE.

AGRICULTURE OF THE UNITED KINGDOM IN 1871.—It appears from the report of the Board of Trade that the total acreage returned as under all kinds of crops, bare fallow, and grass in the United Kingdom in 1871 was 46,667,178 acres, against 46,170,370 in 1870; of the additional 489,808 acres in 1871, 430,988 acres appear in the returns for Great Britain, and 58,820 acres in the returns for Ireland. Taking the population as ascertained by the last census in April, 1871, and the total acreage returned as under crops, bare fallow, and grass in 1871, it would appear that the quantity of land under cultivation per head of the population was about 1·2 acres in Great Britain and 2·9 acres in Ireland. It is probable, however, that a large proportion of poor herbage is included under the heading of "permanent pasture" in Ireland than in Great Britain. According to the returns of 1871, which show a total acreage under cultivation of 30,838,567 acres in Great Britain and 15,711,398 acres in Ireland, the quantity of land devoted to the different kinds of cultivation was—for corn, 9,675,261 acres, or 31·4 per cent., in Great Britain; and 2,124,079 acres, or 13·6 per cent., in Ireland; for green crops (including potatoes), 3,738,180 acres, or 12·1 per cent., in Great Britain, and 1,511,532, or 9·6 per cent., in Ireland; for bare fallow, 542,842 acres, or 1·8 per cent., in Great Britain, and 22,323 acres, or 0·1 per cent., in Ireland; for clover and other grasses under rotation, 4,369,448 acres, or 14·2 per cent., in Great Britain, and 1,827,733, or 11·6 per cent., in Ireland; and for permanent pasture, 12,435,442 acres, or 40·3 per cent., in Great Britain, and 10,068,848, or 64·1 per cent., in Ireland. In 1871, of a total acreage under corn crops of 9,675,261 acres in Great Britain (exclusive of the islands), and 2,124,894 acres in Ireland, there were under wheat 3,571,859 acres, or 36·9 per cent., in Great Britain, and 246,954 acres, or 11·6 per cent., in Ireland; under barley, 2,385,783 acres, or 24·7 per cent., in Great Britain, and 222,604 acres, or 10·5 per cent., in Ireland; under oats, 2,715,707 acres, or 28·1 per cent., in Great Britain, and 1,633,960 acres, or 76·9 per cent., in Ireland: under rye, 71,495 acres, or 0·7 per cent., in Great Britain, and 9,647 acres, or 0·5 per cent., in Ireland; under beans, 540,835 acres, or 5·6 per cent., in Great Britain, and 9,549 acres, or 0·4 per cent., in Ireland; and under peas, 389,547 acres, or 4 per cent., in Great Britain, and 1,365 acres, or 0·1 per cent., in Ireland. The total acreage under green crops (including potatoes) amounted in 1871 to 3,738,180 acres in Great Britain (exclusive of the islands), and to 1,511,532 acres in Ireland. These quantities were divided between the several crops in the following manner:—Under potatoes, 627,691, acres, or 16·8 per cent., in Great Britain, and 1,058,287 acres, or 70 per cent., in Ireland; under turnips and swedes, 2,163,744, or 57·9 per cent., in Great Britain, and 327,162, or 21·6 per cent., in Ireland; under mangold, 360,517 acres, or 9·6 per cent., in Great Britain, and 31,766, or 2·1 per cent., in Ireland; under carrots, 20,154 acres, or 0·5 per cent., in Great Britain, and 4,167 acres, or 0·3 per cent., in Ireland: under cabbages, kohlrabi, rape, collectively, 178,919 acres, or 4·8 per cent., in Great Britain, and 43,543 acres, or 2·9 per cent., in Ireland; and under vetches, lucerne, and any other green crops (except clover or grass), 387,155 acres, or 10·4 per cent., in Great Britain, and 46,607, or 3·1 per cent., in Ireland.

LIVE STOCK IN THE UNITED KINGDOM—From a return of the number of live stock in 1871, it appears that the total number of horses in the United Kingdom was about 2,648,000, of which Great Britain possessed (including horses subject to duty) 2,110,590, and Ireland 537,633; the total number of cattle was 9,346,216, of which 5,337,759 belonged to Great Britain, and 3,973,102 to Ireland; the total number of sheep was 31,403,500, of which there were in Great Britain 27,119,569, and 4,228,721 in Ireland; and, lastly, the stock of pigs included in the returns amounted to 4,136,616, of which Great Britain had 2,499,602, and Ireland 1,616,754. It may be useful to show the proportionate number of each description of live stock to every 100 acres of land returned as under crops, fallow, and grass. The proportions differ much, especially as regards cattle and sheep in the several divisions of the kingdom. In 1871, horses to every 100 acres returned show a proportionate number in Great Britain of 4·1 for those used in agriculture, and of 6·8 if those subject to duty are included; and in Ireland all description of horses are in the proportion of 3·4 per 100 acres, or just one-half of the number maintained upon an equal acreage in Great Britain. Cattle, in proportion to every 100 acres, numbered 15·5 in England, 22·9 and 23·7 in Wales and Scotland respectively, and 25·3 in Ireland. Sheep were returned for every 100 acres as numbering 73·9 in England, 103·9 in Wales, 152·4 in Scotland, and only 26·9 in Ireland. Pigs (exclusive of those in Great Britain kept in towns and by cot tagers with less than one quarter of an acre of land) show for every 100 acres 8·8 in England, 8·7 in Wales, not more than 4·3 in Scotland, and 10·2 in Ireland. Pigs do not appear, therefore, to be a favourite description of stock in Scotland. With a very much larger area of acreage, the stock of pigs is smaller in Scotland than in Wales. "A comparison of the returns of live stock in 1871 against 1870 exhibits some variations in the number of animals kept by occupiers of land, more especially as regards

sheep. With respect to horses, there was a slight decrease of 12,000 in the total number returned as used for agricultural purposes in Great Britain in 1871. The number of licences issued for horses subject to duty was 856,140 in 1871, against 841,208 in 1870. The total stock of horses in the United Kingdom in 1871 has already been stated as amounting to 2,648,000. But allowing for more than one licence for some horses, upon change of ownership, the total number of horses may be taken at 2,600,000 in round numbers. This is a large number in proportion to the area as compared with some foreign countries. It exceeds the number of horses in Prussia and France. Horses are the most costly kind of live stock to maintain, and it is probable that, taking one class of horses with another, the general annual cost of horses of an age for work in in this country is not far short of their actual value. The total number of cattle returned in Great Britain in 1871 shows a decrease of 65,000 as compared with 1870. Taking cows and heifers only the decrease was 70,000, but the number of other cattle was slightly increased. In Ireland the stock of cattle, which is considerable, was larger in 1871 than 1870 by 177,000 head. Of the total number of cattle in Great Britain in 1871, 39 per cent. comprised cows and heifers in milk or in calf, 26 per cent. other cattle of two years of age and above, and 35 per cent. other cattle under two years of age. The stock of sheep is more affected by the character of the seasons than the stock of cattle. Owing to repeated drought and the consequent shortness of green food the number of sheep in Great Britain decreased in each of the years 1869, 1870, and 1871. The total number in 1871 was smaller than in 1870 by 1,278,000, smaller than in 1869 by 2,419,000, and smaller than in 1868 by 3,592,000, or nearly 12 per cent. In Ireland the number of of sheep in 1871 was smaller by 105,000 than in 1870, and smaller by 672,775 than in 1868. Under more favourable conditions as regards the supply and cost of food, the stock of pigs in Great Britain, so far as returned, shows an increase of 328,000 in 1871 over 1870; and in Ireland there were 157,000 more pigs in 1871 than in 1870.

Cultivation of Green Crops in Great Britain.—The total acreage of land returned to the Board of Trade as under green crops in Great Britain in 1871 shows a considerable increase over 1870, the difference amounting to 151,000 acres in favour of 1871. This increase becomes more important perhaps from the fact that although the acreage under green crops in 1870 and in 1869 did not vary much, it was in both of those years largely in excess of what it was in 1868 and 1867. The first in the list of the separate green crops is potato, and 40,000 additional acres were planted with that crop in 1871 as compared with 1870, but the prevalence of the potato disease has greatly interfered with a larger supply of so important an article of food. In spite of bad crops the cultivation of potatoes has increased in Great Britain in each year since 1867, over which year the returns for 1871 show an increase of 135,000 acres, or 27 per cent. In Ireland the land under potatoes was more by 15,000 acres in 1871 than in 1870. The acreage devoted to the growth of turnips and swedes in 1871 shows a decrease, as compared with 1870, to the extent of 47,000 acres in Great Britain. In Ireland the falling off in the acreage under turnips in 1871, as compared with 1870, was 12,000 acres.

Agricultural Statistics of Ireland.—The returns obtained by the Registrar-General for Ireland show that in 1871 there were 244,451 acres under wheat, a decrease of 15,395 acres as compared with 1870; the estimated produce per statute acre averaged 12·1 cwt., a decrease of 0·1 cwt.; and the estimated total produce was 705,939 quarters, a decrease of 48,322 qrs. The extent under oats was 1,636,136 acres, a decrease of 13,903 acres: produce per acre 12·7 cwt., a decrease of 0·1 cwt.; estimated total produce 7,410,814 qrs. a decrease of 148,489 qrs. Under barley there were 220,979 acres, a decrease of 20,306 acres; produce per acre 15·2 cwt., a decrease of 0·3 cwt.; estimated total produce 931,083 qrs., a decrease of 102,977 qrs. Under bere and rye there were 11,555 acres, a decrease of 242 acres; bere at 14·5 cwt. per acre (a decrease of 0·7 cwt.) produced 8,707 qrs., a decrease of 3,495 qrs.; and rye at 10·8 cwt. per acre (a decrease of 0·5 cwt.) produced 25,919 qrs., a decrease of 159 qrs. There were 1,058,434 acres under potatoes, an increase of 14,851 acres; the produce per acre, however, was but 2·6 tons, a decrease of 1·4 ton; the estimated total produce was 2,793,641 tons, a decrease of 1,424,804 tons. Under turnips there were 327,035 acres, a decrease of 12,024 acres; produce per acre 13·0 tons, an increase of 1·4 ton; estimated total produce 4,246,332 tons, an increase of 304,930 tons. Mangel wurzel 31,810 acres, an increase of 6,490 acres; produce per acre 13·5 tons, an increase of 0·8 ton; estimated produce 430,516 tons, an increase of 108,948 tons. Cabbage 33,008 acres, a decrease of 1,971 acres; produce per acre 10 tons, an increase of 0·2 ton; estimated produce 331,347 tons, a decrease of 11,366 tons. Flax 156,670 acres, a decrease of 38,240 acres; produce per acre only 13·2 stones (of 14lb)., a decrease of 12·1 stones; estimated total produce 12,919 tons, a decrease of 17,852 tons. Hay, 1,829,044 acres, an increase of 55,193 acres; produce per acre 1·8 ton, a decrease of 0·1 ton; estimated total produce 3,315,525 tons, a decrease of 71,919 tons. There was thus a net decrease of 25,547 acres in the extent under the crops included in the return as compared with 1870. The only increases in produce were in turnips and mangel wurzel. Comparing time present with 20 years ago, we find much less cultivation of wheat and

ints; the acreage under potatoes has increased, but the amount of the produce has decreased; the acreage under hay has increased by nearly 600,000 acres, and the hay produced by nearly 800,000 tons. The population has decreased by nearly 18 per cent. The year 1871 was the worst flax year in the 20 years.

IMPROVEMENT OF LAND.—A return prepared by the Enclosure Commissioners shows that, under the Improvement of Land Act of 1864, they have issued 66 provisional orders for sums amounting together to 237,762*l.*, and other applications were in progress towards provisional orders. The improvements thus sanctioned are classed as follows:—Subscriptions to railways, 53,950*l.*; for buildings, 71,470*l.*; labourers' cottages, 8,030*l.*; drainage and other works, 104,312*l.* The return states that up to the end of 1871 the total amount charged on estates under the public money drainage Acts and the other Acts under which loans may be charged for agricultural improvements reached 9,590,223*l.*; but the whole of this is not now a charge upon lands, some portion having been redeemed, and other part of the principal included in the payments made from time to time.

MALT AND BARLEY.—The following are returns of the number of bushels of malt charged with duty, and the amount of duty charged, in the year 1871, in England, Scotland, and Ireland respectively; England 45,123,969 bushels, 6,119,938*l.* 1*s.* 2¼*d.* duty; Scotland, 2,728,574 bushels, 368,957*l.* 11*s.* 3½*d.* duty; Ireland, 2,871,554 bushels, 389,206*l.* 14*s.* 5¾*d.* duty; and the quantity of barley imported into the United Kingdom in the year 1871 was 8,569,012 cwt., equivalent to 2,399,323 qrs.

WASTE LANDS OF IRELAND.—An official return states that no applications have been made to the Board of Works in Ireland, under section 43 of the Landlord and Tenant Act of 1870, for advances towards reclamation and purchase of waste lands. The waste land of Ireland is stated to be 4,259,795 acres. This consists of the area of bog, mountain, and other unreclaimed and waste land, on which there was no live stock found at the last enumeration of agricultural statistics—viz., in June and July, 1871, including also the roads, rivers, fences, and smaller lakes throughout the country.

THE TIN TRADE.—The imports in the year 1871, in tin blocks, ingots, bars, slabs, and regulus were 170,660 cwt., value 1,082,186*l.*, against 94,787 cwt., estimated at 603,979*l.* in 1870. Our exports of the same article were 19,250 cwt. in excess of 1870—namely, 41,196 cwt. in 1871, as compared with 21,946 cwt. in the previous year. Of unwrought tin, France, Russia, Turkey, and several other countries took 12,615 cwt. more last year than in 1870—namely, 114,311 cwt., against 101,696 cwt. The most interesting figures, however, are those which tell of the remarkable development of the tin-plate department of the trade. The year's exports were as under:—France, 1870, 25,158 cwt.; 1871, 42,426 cwt.; United States, 1870, 1,507,455 cwt.; 1871, 1,738,588 cwt.; British North America, 1870, 59,759 cwt.; 1871, 83,128 cwt.; Australia, 1870, 63,006 cwt.; 1871, 106,197 cwt.; other countries, 1870, 341,641 cwt., 1871, 424,753 cwt.; total, 1870, 1,997,019 cwt., 1871, 2,395,092 cwt. The increase, therefore, in the exports only was 398,073 cwt., valued at 637,738*l.*, the total realizing nearly three millions sterling. Ten years ago we manufactured 1,001,500 cwt., valued at 1,212,655*l.*, so that in a decade the trade has more than doubled itself.

THE TRADE OF DUBLIN.—A return of the shipments from the port of Dublin during the year 1871, furnishes evidence of the prosperity of its local trade. The exports of porter have increased by over 13,000 hogsheads, the total number being 181,901, of which 134,273 were shipped for Guinness. The shipments of whisky, notwithstanding the high duty, were six times as great last year as in 1864. They amounted altogether to 3,254, and comprised 6,649 barrels and puncheons, 452 hogsheads, and 4,317 quarter casks. There was an increase also in the exports of flour, oats, and oatmeal. The shipments of cattle and sheep were not so large, owing to the restrictions rendered necessary by the fear of disease, but the shipments of pigs were more than doubled. The following are the figures showing a comparison for the last three years:—

	1871.	1870.	1869.
Cattle	174,969	181,293	215,949
Calves	732	819	950
Sheep	241,448	235,623	416,948
Pigs	198,170	158,078	88,958

There was an extraordinary increase in the exports of butter, as will appear from the following table giving the shipments for the last three years:—

	1871.	1870.	1869.
Butter, firkins ..	48,572	16,780	6,564
Bacon, bales and boxes	2,514	3,420	6,564
Hams, tierces and casks	608	994	1,334
Beef, ditto, ditto ..	2,038	1,126	1,845
Pork, barrels ..	4,451	4,230	2,769
Lard, ditto	6,097	6,362	5,828

10,112 boxes of American bacon were imported during the year, against 6,123 boxes in 1870. The shipments of wool for

the past year amounted to 11,074 bags, against 9,993 bags in 1870, and 13,074 in 1869.

IMPORTATION OF BUTCHERS' MEAT.—The following figures taken from the Board of Trade Returns, show the quantity of foreign meat imported into the United Kingdom from 1866 to 1871:—

	Cwt.	Value.
1866	91	£321
1867	6,721	18,820
1868	16,337	45,746
1869	28,307	80,385
1870	72,812	203,874
1871	237,160	513,186

HOPS.—A Parliamentary return shows a gradual decrease in the number of acres under hop cultivation in England. According to the agricultural returns obtained by the Board of Trade, the number of acres was 64,280 in 1867, 64,488 in 1868, 61,791 in 1869, 60,594 in 1870, and 60,029 in 1871. From another return it appears that 201,398 cwt. of hops were imported into the United Kingdom in the year ending 30th September, 1871; the countries from which they were received being Denmark, Germany, Holland, Belgium, France, Illyria, Australia, British North America, the United States, and the Argentine Confederation. The quantity of British hops exported from the United Kingdom during the same period was 12,507 cwt., and the quantity of foreign hops so exported was 5,188 cwt.

BREWERS AND BEER.—The annual returns relating to brewing show that in 1871, 50,724,086 bushels of malt were made, and the duty charged thereon amounted to 6,878,102*l*. In the year ending the 30th of September, 1871, 31,726 persons in the United Kingdom paid for licences as common brewers, and the amount of licence duty charged upon them was 399,576*l*., being 11,187*l*. more than in the preceding year. The great majority brew less than 1,000 barrels in the year; but one took out a licence for brewing between 450,000 and 500,000 barrels, one for between 500,000 and 550,000, two for 600,000 to 650,000, and one took a licence for brewing more than 700,000 barrels, and paid 9,593*l*. licence duty. In the same year 467,503 barrels of beer, of the value of 1,811,076*l*., were exported from the United Kingdom, the value being less than in the preceding year by 119,007*l*. The export of beer to India was of the value of 416,089*l*.; to Australia and New Zealand, 343,209*l*.; to the United States, 178,208*l*.; to South Africa, 61,575*l*.; to Brazil, 68,294*l*.; to Peru, 55,190*l*.

BRITISH SPIRITS.—In the year 1871, 30,855,035 gallons of proof spirits were distilled in the United Kingdom, being 634,767 gallons more than in the preceding year. 7,739,720 gallons were distilled in England, 13,813,062 gallons in Scotland, and 9,302,253 gallons in Ireland. The consumption of British spirits in 1871, is stated by the Inland Revenue Department at 24,163,644 gallons, being 1,550,154 gallons more than in the preceding year. The net amount of duty received on this quantity taken for consumption in 1871, was 12 081,822*l*. The accounts show 3,923,732 gallons of proof home-made spirits removed from Scotland to England in 1871, and 1,822,507 gallons from Ireland; but the removals from England to Scotland and Ireland were little over 120,000 gallons.

COAL IN THE UNITED KINGDOM.—The total quantity of coal raised in the United Kingdom in the seven years ending with 1870, inclusive, was 725,286,578 tons. In this total 1864 figured for 95,122,919 tons; 1865 for 98,911,169 tons; 1866 for 100,728,881 tons; 1867 for 105,077,743 tons; 1868 for 104,566,959 tons; 1869 for 108,003,482 tons; and 1870 for 112,875,725 tons. To the aggregate of 725.286,578 tons Northumberland, Durham, and Cumberland contributed 77,894,900 tons; South Durham, 106,124,977 tons; North and East Lancashire, 47,031,875 tons; West Lancashire and North Wales, 56,468,939 tons; Yorkshire, 70,043,900 tons; Derbyshire, Nottinghamshire, Leicestershire, and Warwickshire, 54,240,000 tons; North Staffordshire, Cheshire, and Shropshire, 41,000,000 tons; South Staffordshire and Worcestershire, 71,683,500 tons; Monmouthshsre, Gloucestershire, Somersetshire, and Devonshire, 43,428.500 tons; South Wales, 61,427,851 tons; East Scotland, 52,348,690 tons; and West Scotland, 43,593,446 tons.

CONSUMPTION AND PRICE OF COAL IN LONDON.—The charge for coal in the metropolis is now 33 per cent higher than it has been during any period within the last 40 years. In 1832, the city dues on coal were reduced from 6*s*. to the present rate of 1*s*. 1*d*. per ton. In that year the average price of the best coal was 21*s*. 11*d*. per ton, the consumption being 2,139,000 tons. In 1838, the price of the best coal had increased to 24*s*. 6*d*. per ton, the highest point reached during a period of 40 years until the present time. The carriage of coal by railway began in 1845, in which year the London and North-Western Company carried 8,377 tons to the metropolis, the price being at that time 19*s*. 2*d*. per ton, while in the following year it fell to 17*s*. 11*d*. The lowest price in any year since 1831 was 1851, when the average price of the best coal was 16*s*. 1*d*. per ton, or about half of what it is now. In 1862 the price was 17*s*. 7*d*. per ton, since which the rate has oscillated between 18*s*. and 24*s*. per ton. The consumption of coal in London in 1852 was 3,742,000 tons; in 1862, it had increased to 4,967,340 tons, and is now at the rate of fully 7,000,000 tons a year.

CONSUMPTION OF TEA FROM 1801 TO 1871.—The following table, compiled from a Custom House return, shows the quantity of tea consumed in the United Kingdom, at every tenth year from 1801 to 1871, the average price per pound, inclusive of duty and the average quantity consumed by each individual of the population:—

Year.	Quantity consumed.	Average price per lb.	Average quantity consumed by each individual.
		s. *d.*	lb. oz.
1801 ..	23,730,150	4 2½	1 8
1811 ..	22,454,532	6 8	1 4
1821 ..	26,754,587	5 7¾	1 4
1831 ..	29,997,055	4 5¾	1 4
1841 ..	36,675,667	4 3¾	1 6
1851 ..	53,949,059	3 4¾	1 15
1861 ..	77,927,750	2 10	2 11
1871 ..	123,401,889	1 10½	3 15

LEAD.—The imports of lead into the United Kingdom in 1871, were:—ore, 20,860 tons; pig and sheet, 64,908 tons; manufactures, 317 tons. The exports of British lead were:—ore, 297 tons; pig, 34,425 tons: rolled, sheet, piping, and tubing, 10,064 tons.

ZINC.—The imports of zinc into the United Kingdom in 1871, were:—ore, 29,418 tons; crude, 20,929 tons; manufactured, 8,765 tons. The exports of British zinc during the same period amounted to:—ore, 171 tons; zinc or spelter (including crude and manufactures) 6,452 tons.

COPPER.—The imports of copper into the United Kingdom in 1871, were as follows:—ore, 46,335 tons; regulus, 30,100 tons: old copper, only fit to be re-manufactured, 708 tons; unwrought and partly wrought, 32,167 tons; copper manufactures, 31,258 tons. The exports of British copper were as follows:—ore, 128 tons; unwrought in bricks, pigs, &c., 14,175 tons; coin, 38 tons; mixed or yellow metal, 12,999 tons; wrought copper of other sorts, 12,356 tons.

SUGAR.—The quantity of unrefined sugar imported into the United Kingdom in the year 1871, was 12,126,514 cwt., and of refined sugar and sugar candy, 1,640,952. The net revenue derived from the duties on sugar of all sorts was 3,039,022*l.* The quantity re-exported from the United Kingdom was of unrefined sugar, 295,395 cwt.; and of refined sugar, 56,037.

SUGAR USED IN BREWING.—From a return issued by the Inland Revenue Department, it appears that the quantity of sugar consumed in breweries in the year ending 30th September, 1871, was as follows:—England (London) 11,991,690 lbs., (the Provinces) 17,288,499 lbs.; Scotland, 508,472 lbs.; Ireland, 2,712,102 lbs.; total, 32,500,763 lbs.

SUGAR DUTIES.—From returns relating to the sugar duties, and the mode of assessing them, laid before the House of Commons, it appears that the gross amount of duty actually received upon refined and raw sugar and molasses entered for home consumption in the United Kingdom in the financial year 1871-2 was 3,384,713*l.*, under the classified rates of duty; and the drawbacks paid on British refined sugar exported amounted to 233,938*l.* At one uniform duty of 4*s.* 8*d.* per cwt. on the same quantities, the product of the duty would have been 3,386,100*l.*, and the drawbacks 205,222*l.*

PAWNBROKERS IN GREAT BRITAIN.—From an Inland Revenue return, it appears that the number of licenses annually issued to pawnbrokers in Great Britain, has been almost doubled from the year 1849 up to the present date. In 1849, the number stood at 1,837; in 1852, at 1,945; in 1862, at 2,651; and in the year ending 31st March, 1872, at 3,537. The records of the department did not afford information as to the number of persons to whom the separate licenses were issued.

4. POPULATION, PUBLIC EMPLOYMENT, AND VITAL STATISTICS.

THE ARMY OF 1872.—The number of men of all ranks, voted by the House of Commons, was as follows:—Royal Horse Artillery, 2995: riding establishment, Royal Artillery, 225: Life and Horse Guards, 1,302: Cavalry of the Line, 11,046; Royal Artillery, 19,337; Royal Engineers, 5,217; Foot Guards, 6,430; Infantry of the Line, 70,876; Army Service Corps, 3,014; Army Hospital Corps, 1,336; West India Regiments, 1,832; Colonial Corps, 1,725; depôts in the United Kingdom of regiments in India, 6,185—total force on the British establishment, 131,520. General and Departmental Staff, 1,282; establishments, 847. Total force, the cost of which is to be defrayed from the army funds, 133,649. Her Majesty's British forces in India, all ranks:—Royal Horse Artillery, 2,500; Cavalry of the Line, 4,330; Royal Artillery, 9,886: Royal Engineers, 387; Infantry of the Line, 45,854—total, 62,957. Auxilliary and reserve forces:—Militia—permanent staff, 5,066; training services, 133,952. Yeomanry Cavalry—permanent staff, 336; Volunteers, 15,119. Volunteer Corps—

Adjutants, 291; Artillery Volunteers, with capitation grant of 30s.. 33,600; Light Horse, Engineers, and Rifle Volunteers, at 20s., 139,000. There was a vote of 10s. each for 117,700 extra efficients. Army Reserve Force—Class I. 10,000 men; class II., 25,000 men.

Births, Deaths, and Marriages in England and Wales, and Scotland, 1856-1871; and Ireland, 1864-1871.

England and Wales.

Years.	Births.	Deaths.	Marriages.
1856	657,704	391,369	159,262
1857	663,071	419,815	159,097
1858	655,481	449,656	156,070
1859	689,881	441,790	167,723
1860	684,048	422,721	170,156
1861	696,406	435,114	163,706
1862	712,684	436,573	163,830
1863	727,417	473,837	173,510
1864	740,275	495,531	180,387
1865	748,069	490,909	185,474
1866	753,870	500,689	187,776
1867	768,349	471,073	179,154
1868	786,858	480,622	176,962
1869	773,381	494,828	176,970
1870	792,789	515,329	181,655
1871	797,143	515,096	190,015
Scotland.			
1856	101,821	58,529	20,740
1857	103,415	61,906	21,369
1858	104,018	63,539	19,655
1859	106,543	61,714	21,201
1860	105,629	68,170	21,225
1861	107,036	62,287	20,828
1862	107,138	67,159	20,544
1863	109,325	71,421	22,087
1864	112,445	74,303	22,675
1865	113,126	70,821	23,577
1866	113,639	71,273	23,629
1867	114,115	69,024	22,521
1868	115,673	69,386	21,853
1869	113,395	75,789	22,083
1870	115,423	74,067	23,788
1871	116,127	74,644	23,966
Ireland.*			
1864	136,414	93,144	27,406
1865	144,970	93,154	30,802
1866	146,237	93,598	30,151
1867	144,318	93,911	29,796
1868	146,108	86,803	27,753
1869	145,659	89,573	27,277
1870	150,151	90,695	28,835
1871	151,665	88,720	29,007

* Owing to the defective state of the Registration, the figures for births, deaths, and marriages in Ireland are only an approximation to the real numbers.

Officers in the Army.—A Parliamentary return recently issued shows that there are in the British Army 5,981 English commissioned officers, 809 Scotch, and 1,711 Irish—viz., in the Household Cavalry, 64 English, 11 Scotch, 15 Irish; Cavalry of the Line, 605 English, 81 Scotch, 161 Irish; Royal Horse Artillery, 212 English, 30 Scotch, 27 Irish; Royal Artillery, 1,088 English, 104 Scotch, 196 Irish; Royal Engineers, 424 English, 52 Scotch, 134 Irish; Foot Guards, 201 English, 30 Scotch, 15 Irish; Infantry of the Line, 3,387 English, 501 Scotch, 1,163 Irish.

Religious Denominations in the Army.—From a War Office return, it appears that the numbers of the non-commissioned officers and men in the Army according to their religious denominations, are as follows:—Episcopalian Protestants, 114,160; Roman Catholics, 44,392; Presbyterians, 16,904; other religious denominations, 7,568; total, 183,024.

Ten Years' Recruiting and Desertion.—The following is a return of the total number of recruits enlisted and finally accepted in the United Kingdom, for the ten years from 1861 to 1870 inclusive; and of the total number of deserters, and of the number apprehended and tried, during each of the same ten years:—

Year.	Recruits.	Deserters.	Tried for desertion.
1861 ..	8,138	4,559	2,618
1862 ..	4,642	2,895	2,087
1863 ..	6,924	2,971	1,938
1864 ..	11,234	3,079	1,734
1865 ..	10,444	3,519	1,914
1866 ..	10,663	3,583	1,884
1867 ..	13,941	3,449	2,035
1868 ..	10,782	3,011	2,143
1869 ..	8,183	3,341	1,855
1870 ..	14,927	3,171	1,521

Lunacy in England and Wales.—The English Commissioners in Lunacy present in their Report the following statement of the number of persons of unsound mind in England and Wales registered on the 1st of January last:—Private patients, 6,642—viz., 3,682 males and 2,960 females; pauper patients, 51,998—viz., 23,136 males and 28,862 females; making a total of 58,640—viz., 26,818 males and 31,822 females. This total is 1,885 more than on the 1st of January, 1871, and it does not include 170 persons found lunatic by inquisition, and residing in charge of their "committees," elsewhere than in asylums and licensed houses. The 58,640 registered lunatics were thus distributed:—In asylums, hospitals, and licensed houses, 36,687; in workhouses, including the two metropolitan district asylums for imbeciles at Leavesden and Caterham, 13,608; out-

door paupers, 7,436; inmates of the State Criminal Lunatic Asylum, Broadmoor, 489; private patients, under single care, 420. Since the 1st of January, 1859, the number of persons of unsound mind under the cognizance of the Commissioners has increased from 36,762 to 58,640; and the proportion of pauper lunatics to the whole number of paupers from 3·66 per cent. to 5·30 per cent. On the 1st of January, 1859, the number of lunatics, idiots, and persons of unsound mind under the cognizance of the Commissioners was 1·86 per 1,000 of the population of England and Wales; 13 years later, on the 1st of January, 1872, it was 2·54 per 1,000.

VITAL STATISTICS OF LONDON.—In the 52 weeks ending on Saturday, the 30th of December, 1871, 112,535 births and 80,332 deaths were registered in the metropolis. The natural increase of the population, therefore, by excess of births over deaths, was 32,203. The estimated increase of population, however, between the middle of 1871 and of 1872, is 48,719; so that the natural increase was supplemented by about 16,000, representing the excess of immigration over emigration. The birth-rate in London in 1871 was equal to 34·5 per thousand persons, being 0·5 below the rate for all England. The death-rate in London in 1871 was 24·7 per 1,000, being 2·1 above the rate for all England; exclusive of the deaths from small-pox the London death-rate would have been only 22·3. As it was, the rate of mortality was higher than in any year since 1866, when cholera was epidemic. The male death-rate of London in 1871 was 26·6, while among females it was only 22·8; at the recent census there were 113·7 females living in London to each 100 males. Nearly one-fourth, 24·2 per cent., of all the deaths in London in 1871 are referred to the seven chief zymotic diseases—viz., 7,876 to small-pox, 3,894 to diarrhœa, 2,229 to whooping-cough, 1,896 to scarlet fever, 1,746 to other forms of fever, 1,431 to measles, and 313 to diptheria. The epidemic of smallpox, which began in 1870, showed throughout 1871 a tendency to subside. It is regarded as a satisfactory sign of an improving sanitary condition that the London deaths from fever have been declining for years, and have fallen from 3,689 in 1864 to 1,746 in 1871. In 1871 there were 2,594 deaths from violent causes in London, 2,138 of them from negligence or accident, including 909 from fractures and contusions, among which are 208 deaths caused by horses or vehicles in the streets. Among the deaths by negligence or accident are 490 from suffocation, nearly all cases of infants; there were 109 cases of murder or manslaughter, nearly all of them cases of infanticide. 23·9 per cent. of all the deaths in London were of children under one year old, being equal to 17·1 per cent. of the number of births registered. There were no less than 14,665 deaths in the large public institutions in London last year, or 18·3 per cent. of the total deaths; 6,675 in workhouses, 7,846 in hospitals, 347 in lunatic asylums, 81 in naval and military asylums, and 76 in prisons. London, that is, the registration division so called, comprising 122 square miles, had at the recent census 417,767 inhabited houses, containing on an average 7·8 persons to a house. The population reside at a mean elevation of 39ft. above Trinity high-water mark; the elevation ranging from 11ft. below that mark in Plumstead marshes to 429ft. above high-water mark at Hampstead.

LUNACY IN SCOTLAND.—The report issued this year by the Commissioners in Lunacy for Scotland, which has a population somewhat exceeding a seventh of that of England and Wales, shows that on the 1st of January, 1871, the Board had official cognizance of 7,729 insane persons in Scotland—viz., 3,636 males and 4,093 females; there were 1,360 maintained from private sources, viz., 674 males, and 668 females, and 6,318 by parochial rates, and 51 at the expense of the State—viz., 2,962 males and 3,407 females. The Board have no certain knowledge of the unreported insane maintained by their friends in private dwellings, but estimate their numbers at nearly 2,000, of whom the larger proportion belong to the classes little removed from pauperism. The above total, 7,729, is more by 158 than on the 1st of January, 1870. There were 4,524 in Royal and district asylums; 338 in private asylums; 1,174 in parochial asylums and lunatic wards of poorhouses; 51 in the lunatic department of the central prison; 123 in training schools for imbeciles; 1,519 in private dwellings under official cognizance. Since the 1st of January, 1862, the number of lunatics officially known to the Board has increased from 6,370 to 7,606, without counting in this last number 123 in training schools for imbeciles; and in ten years, from 1861 to 1871, the proportion of pauper lunatics in the general population has increased from 171 to 187 in every 100,000; and the proportion of pauper lunatics to paupers from 68·00 to 79,28 per 1,009. The Commissioners observe that the rate of increase of pauper lunacy in all Scotland in the ten years, 1861–71, is almost exactly double the rate of increase of the population; and that the general inference from the comparative numbers of private and pauper patients is that insanity is essentially a disease affecting the less affluent classes. The Commissioners mention that the admission papers of 602 patients placed in asylums in 1871 specified the causes, and stated that in 118 cases, or more than a sixth, the insanity resulted from intemperance. The Commissioners consider that the increase of insanity is not a result of modern civilization, save in so far as modern civilization has led to a departure from the conditions of healthy exercise by over-crowding in cities, by exhausting labour, by breathing vitiated air, by over-indulgence in stimulants, by inappropriate

food, and by neglect in the training of children. It is considered, therefore, that the number of the insane poor must continue increasing until the education of the people shall embrace practical instruction in those natural laws on attention to which both bodily and mental health depend.

MORTALITY AMONG LUNATICS IN GREAT BRITAIN.—The mortality in English lunatic asylums is higher than that which occurs in the asylums of Scotland. In the 12 years, 1859-70, the average annual mortality in English county and borough asylums was 10·85 per cent.; in the public asylums of Scotland, 8·33 per cent. In both countries the male mortality is higher than the female mortality. In Scotland the tendency to death in summer is greater among females than males. The proportion of recoveries to admissions in 1871 is stated at 33·87 per cent., in asylums and licensed houses in England, and 40·4 per cent. in Royal and district asylums in Scotland; and of deaths to the average number resident, 10·33 per cent. in England and 8·5 per cent. in Scotland. The Scotch Commissioners state that above 40 per cent. of the patients admitted into public asylums die within the first year, a large proportion being already on admission affected with some incurable form of organic degeneration.

---

5. CRIME, PAUPERISM, AND ACCIDENTS.

STREET ACCIDENTS IN LONDON, 1869-1872.—From the return furnished by the police offices, it appears that the number of persons killed or injured by vehicles in the streets in the three years from 1st July, 1869, to 30th June, 1872, was as follows:—In Metropolitan police districts, run over and killed, 341; maimed or injured, 6,054. In City of London police district, run over and killed, 22: maimed or injured, 855, of whom 19 afterwards died in hospital, thus raising the actual number of deaths to 41.

PRISON STATISTICS OF NORTH BRITAIN.—The report of the Inspector of Prisons in the northern district of Great Britain, compares the number of admissions of criminal prisoners, in 1870 and 1871, to the county and borough prisons of the district, which comprises Scotland and 14 counties of England—viz., Lincolnshire and Staffordshire and the counties north of them. The number of admissions to the prisons in that district of England fell from 75,234 in 1870 to 72,149 in 1871, a decrease of 3,085; and the number in Scotland fell from 28,550 in 1870 to 27,657 in 1871, a decrease of 893. The total was 103,784 in 1870, and 99,806 in 1871, a decrease of 3,978. There were only seven committals to Forres prison in the year 1871, and the greatest number in the prison at any one time in the year was two: the keeper and the matron, the only officers, reside away from the prison, and in different parts of the town. The admissions of criminals to Dornock prison in 1871 were 11, but the average daily number in custody was one; there is a governor, a matron, a chaplain, and a surgeon. In another Scotch prison the committals of criminals in the whole year were but eight. No one of four other Scotch prisons had at any time more than four criminals in custody.

CONVICTIONS UNDER THE GAME LAWS.—In the year 1871 there were 8,913 persons summarily convicted in England and Wales of offences against the Game Laws, and 62 persons on indictment for being out armed, taking game, and assaulting gamekeepers. The summary convictions comprised 7,725 for trespassing in the daytime in pursuit of game, 429 for night poaching and destroying game, 28 for illegally selling or buying game, and 731 under the Poaching Act of 1862. The total number of persons proceeded against summarily under the Game Laws was 10,771, there being 1,858 discharged and 8,913 convicted. The total number proceeded against under the Poaching Act of 1862 was 927, there being as many as 196 discharged, and 731 convicted. In three English counties—Buckingham, Dorset, and Hereford—the summary convictions under the Game Laws in 1871 exceeded one per 1,000 of the population, and in Shropshire the convictions very nearly reached that ratio.

ACCIDENTAL DEATHS.—A Parliamentary return, ordered on the motion of Mr. Lusk, shows that in the two years 1869 and 1870 there were 6,062 lives lost from British ships by shipwreck or other accident at sea. The returns of English coroners show 185 lives lost by explosions of land steam-boilers in the two years. There were also 2,122 lives lost in mines, 606 on railways, and 515 in factories, these last three items not including the lives lost by explosion of steam. The English coroners' returns show 2,997 lives lost in the two years by street or road accidents; and 14,463 lives lost by casualties on land not included in any of the foregoing headings. The total is 26,950; but the railway returns are deficient in not always including fatal accidents to other than passengers.

DRUNKENNESS.—A Parliamentary return shows that in the year ending the 1st of July, 1871, there were in the United Kingdom 238,274 convictions for being drunk, or drunk and disorderly—130,785

in England, 15,194 in Scotland, 92,295 in Ireland. The total is 37 per cent, of the whole number of summary convictions for criminal offences. The total includes 23,175 which were second convictions—10,982 in England, 1,094 in Scotland, 11,099 in Ireland; third convictions, 12,065—3,861 in England, 556 in Scotland, 7,648 in Ireland. The number which had been preceded by three or four convictions is 21,848—4,018 in England, 919 in Scotland, 16,911 in Ireland. It must not be supposed that this shows the number of drunkards. On the one hand, the above number counts, not offenders, but offences, and the habitual drunkard may be reckoned several times over; but, on the other hand, a much larger number of drunkards are omitted owing to their not getting into the hands of the police, or being convicted of assault or some other offences, instead of drunkenness.

CLASSIFICATION OF CRIME.—From the recent "Return of the trade or occupation of the persons taken into custody during the year 1871," by the Metropolitan Police it appears that among the culprits there were for simple larceny 105 shoemakers, 100 sailors, 95 painters, 84 carpenters, 69 smiths, 60 tailors, 49 bricklayers, 44 soldiers, and 7 butchers; for common assaults, 164 sailors, 140 shoemakers, 129 tailors, 127 carpenters, 120 bricklayers, 113 smiths, 102 painters, 35 butchers, and 37 soldiers; for being drunk, or drunk and disorderly, 337 carpenters, 333 tailors, 300 sailors, 286 painters, 250 shoemakers, 178 bricklayers, 177 smiths, 95 butchers, and 16 soldiers.

THE METROPOLITAN POLICE.—The police accounts for the financial year ending the 31st of March, 1872, show that the receipts for the service of the Metropolitan Police amounted to 909,859*l.* This amount included 219,283*l.* from the Parliamentary vote, consisting chiefly of the contribution upon the rental assessed, which is 20,390,173*l.*; also 554,977*l.* from the parishes on rate warrants; 97,800*l.* for special services of the police at the public offices and at private establishments; and 20,715*l.* from proprietors, drivers, and conductors of public carriages. The expenditure included 25,510*l.* for the establishment and office expenses; 711,943*l.* for pay, clothing, and equipment of the force; 46,235*l.* for erection, purchase, rent, repairs, rates, and expenses of police stations and section houses; 19,204*l.* for fuel and light; 13,472*l.* for horses, vans, carts, &c.; 6,581*l.* for medical expenses and the funerals of 43 police officers; 70,587*l.* for superannuations, in addition to 21,000*l.* supplied from the superannuation fund. The number of persons belonging to the Metropolitan Police Force on the 1st of January, 1871, was 9,637—viz., 4 district superintendents, 24 superintendents, 252 inspectors, 949 sergeants, and 8,408 constables; 2,520 men were on the superannuation list. The year's salaries of the magistrates, clerks, &c., at the metropolitan police courts amounted to 40,205*l.* in the financial year 1871–72. These are paid from the public purse, the Consolidated Fund, or Parliamentary vote.

RELIEF OF THE POOR IN SCOTLAND.—The Board of Supervision for Relief of the Poor in Scotland report that the expenditure for relief and management in the year ending the 14th of May, 1871, amounted to 882,106*l.*, being 22,939*l.* less than in the preceding year, which in its turn had shown a still larger decrease. The expenditure consists of 641,454*l.* for relief of the poor on the roll, 22,485*l.* for relief of casual poor, 35,526*l.* for medical relief, 101,716*l.* for management, 9,274*l.* law expenses, and 71,651*l.* for buildings. The total is 9*l.* 9*s.* 3*d.* per cent. on the annual value of real property as returned in 1843. According to the annual value as returned in 1856 the rate per cent. is 7*l.* 10*s.* 9*d.* According to the annual value of 1871, as returned by the inspectors of the poor, the rate per cent. is only 5*l.* 3*s.* 1*d.* The rate per head of population is 5*s.* 3*d.* The expenditure for relief of poor on the roll, or registered, shows an average allowance of 6*l.* 4*s.* 1¼*d.* to each, being 1*s.* 5*d.* less than in the preceding year. The registered poor on the 14th of May, 1871, comprised 77,759 adults and 45,811 dependents, the number of registered poor being less than in any other year since 1867; casual poor, 2,916 adults and 2,771 dependents, being less than in any other year since 1861. The number of poor receiving indoor relief was but 7,749. The number of the poor relieved on the 1st of January, 14th of May, and 14th of August gives the following average for 1871:—Registered poor, 77,786 adults and 45,233 dependents; casual poor, 3,134 adults and 2,845 dependents.

DEATHS FROM STARVATION.—A return of the number of deaths in the year 1871, attributed by a coroner's jury, directly or indirectly, to want or starvation, printed by order of the House of Commons, shows that in the central division of Middlesex the number of such deaths, where a verdict to that effect has been returned, has been no less than 73, in the eastern division 25, and in the western division only 2. The ages vary from birth to 82 years. Out of the total 100 cases 36 were adult women, and only 12 were infants of less than a year old. Of course, however, with regard to children, the number of verdicts must necessarily fall very considerably short of the actual number of those who die from insufficient nourishment. Thirteen of the whole number were receiving outdoor relief at the time of death. In very many cases admission to the workhouse had been offered and refused. No less than 12 were inmates of St. Pancras Workhouse.

THE GAOL OF NEWGATE.—The Ordinary of Newgate, in his annual report, states

that during the last two years there has been a steady diminution in the number of those committed to Newgate, and that he believes the same welcome fact is to be observed generally throughout the kingdom, In 1869 there were 1,764 male prisoners; in 1870, 1,655; and in 1871, 1,427; the numbers of women in those years being respectively 299, 303, and 273. Of these, 437 men and 21 women in 1869 had been previously convicted—16 of them more than ten times; in 1870, 287 men and 37 women; and in 1871, 368 men and 40 women.

EXPLOSIONS.—A return of explosions which occurred in England in the three years 1868-1870 (the information being obtained from the chief constables of counties and the mayors of boroughs) shows that 33 persons were killed by explosions at powder mills; five by an explosion at the Government gunpowder factory at Waltham Abbey; 53 by an explosion of gunpowder, &c., at works at Handsworth, caused by a girl's clothing taking fire at a stove in an ammunition manufactory; eight by explosion of powder and partly-made cartridges in an ammunition shed at works at Handsworth: and one by explosion of fulminate in a mixing shed. There were six persons killed by an explosion caused by "culpable neglect" at caustic liquor works. At firework factories three persons were killed by an explosion in a wooden shed, in which men were charging and pinning rockets, and 11 by the ignition of a canister of powder, which a woman "placed on a stove heated by fire." Five persons were killed by the accidental breaking of a jar of diamond oil (extract of petroleum) ignited by the fire in a grocer's kitchen. Two persons were killed by the explosion, at a dwellinghouse in Portsea, of materials with which Lieutenant Meade was making experiments with some kind of torpedo. One man was killed by the bursting of a cannon. Two persons were killed in London by the explosion in the cellar of an oil and colour warehouse, of a composition called 'Brunswick Black,' kept there for sale, the vapour having ignited from a lighted candle being placed near it. Four persons were killed by a store-room at fog-signal works blowing up. Two persons were killed by accidental explosions of gas. Six by explosion of nitro-glycerine, while on transit in carts. Four deaths by boiler explosions are in the list. The whole list records 148 deaths.

CRIME IN SCOTLAND.—The police returns for 1871 show that in Scotland in that year there were 121,571 offences reported or or otherwise made known to the police, being 3,466 more than in the preceding year; in respect of 15,096 no person was apprehended or cited, but in respect of 106,475 some person was either apprehended or cited. Of the total number of offences thus known to the police 7,625 were offences against the person. Among them were 7 murders, 44 attempts to murder or maim, 30 culpable homicides, 90 assaults upon women with intent, &c., 297 assaults on peace officers, 6,919 other assaults, 21 cases of reckless discharge of firearms. There were 22,486 offences against property; they were chiefly burglary and robbery, but 2,168 are returned under the head of "malicious mischief" and 472 as breaches of trust and embezzlement. The other 91,460 offences are of miscellaneous character:—32,326 cases of common assault, breach of the peace, or disorderly conduct; 907 breaches of publicans' certificates; 3,681 instances of contravention of the Public-house Act; 487 cases of selling spirits without a licence; 503 weights and measures cases; 657 of furious driving; 442 of cruelty to animals; 374 of poaching; 679 of begging; 1,743 road offences under statute. Nearly 49,000 "police offences" are not classed or enumerated, 36 000 of them in Glasgow. The number of persons apprehended or cited by the police was 141,644—viz., 99,595 males and as many as 42,049 females; the total is 2,971 more than in 1870. There were 7,843 charged with offences against the person, being more than the number of offences of that class reported; only 14,259 persons charged with offences against property; 119 542 charged with the offences classed as miscellaneous. The persons thus charged were disposed of as follows:—94,963 were tried at the instance of the police, and 87,940 of these (65,094 males and 22,846 females) were convicted, and 7,023 acquitted; in the case of 42,346 the proceedings were dropped, 619 stood over at the end of the year, the remaining 3,716 were committed for trial, 2,794 males and 922 females. This brings us to the more serious offences of the year, and to another and different series of returns, which account for only 2,948 commitments within the year—796 for offences against the person, 480 for offences against property committed with violence, 1,304 for offences against property without violence, 74 for malicious offences against property, 52 for forgery and currency offences, and 242 for other offences. There were 2,905 cases disposed of in the year; the annual average for the five years 1867-71 was as high as 3,241. Deducting 449 cases not called for trial, being discharged, there remain 2,456; in 29 cases the bail bonds were forfeited and the accused outlawed, 2 were found insane, 49 "Not Guilty," and 192 had a verdict of "Not Proven;" the other 2,184 were convicted, 1,673 males and 511 females. There was no death sentence in the year; 191 convicted persons—134 males and 57 females—were sentenced to penal servitude for terms of years, but none for life; 1,862 to imprisonment, more than half the terms not exceeding three months; 104 were sentenced to whipping or fines or discharged on finding sureties; and in 27 cases no sentence was passed. The returns are generally full and precise, as the following example will show:—Of the six persons in custody in the year committed for

trial for murder—viz., two males and four females, the cases of five were disposed of in the year; the two males were discharged, at the instance of the Lord Advocate; one of the females was found insane; a second had the verdict of "Not Proven;" the third, a girl under sixteen years of age, was convicted and sentenced to penal servitude for a term of years. Another set of returns from the Prison Boards of the several counties, and from Perth General Prison, states that the number of criminals received into the prisons in Scotland in the year 1871 was 28,588—viz., 17,427 males and 11,161 females, or, omitting mere transfers, the total was 27,896, being 740 above the five years' average; the average daily number in confinement was 2,617 (1,516 males and 1,101 females), being 12 above the average. The average duration of confinement of each was only 31 days. As many as 352 of the commitments were of prisoners who had been in the same prison 50 times or more—44 males and 308 females, two-thirds of these females being in prison at Edinburgh. Not counting any prisoner more than once, the criminal prisoners received in the year were 18,815—viz., 13,400 males and 5,415 females. As many as 5,995, when admitted, could not read: 15,256 could only read with difficulty; 6,645 could read well. The sentences to hard labour, in addition to imprisonment, were 1,165—viz., in the case of 926 males and 239 females. The list of prison punishments shows 1,697 punished for misconduct in prison—1,304 males and 393 females, 83 were put in irons—42 males and 41 females.

THE METROPOLITAN FIRE BRIGADE.—At the end of the year 1871 the London Fire Brigade had 387 firemen, 104 fire-escapes, 82 miles of telegraph lines, 85 manual fire-engines 17 small land steam fire-engines, 8 large, 3 floating steam fire-engines, and one iron barge to carry a land steam fire-engine. The proportion of serious to slight losses by fires in 1871—viz., 207 to 1,635 (not reckoning 2,559 chimneys on fire)—is even more favourable than the brigade have succeeded in making it during the last few years, and shows that their success in reducing losses is, in proportion, much greater now than it was five years ago. The quantity of water used for extinguishing fires in the metropolis in 1871 was above 16 million gallons, or about 72,342 tons. About half was taken from the river, canals, and docks, and the remainder from the street pipes. There were, in the year, 12 instances of short supply of water, 35 of late attendance of turncocks, and 20 of no attendance, making altogether 67 cases in which the water arrangements were unsatisfactory. This was a defect of the system of intermittent supply. Every fire-engine carries a complete set of turncock's tools, and, consequently, the fireman can always obtain water when it is in the pipes; but, with empty pipes, none but those in charge of the sluice-cocks can know where and how to obtain a supply without considerable delay. The complication of mains, services, and sluice-cocks is such, that cases have occurred in which even the skilled turncocks have failed to procure water quickly, although it was known to be in the immediate vicinity.

CRIME IN THE METROPOLIS.—While the population of the metropolis has been nearly doubled since the establishment of the metropolitan police, there has been an actual decrease in crime. For example, in 1831, 72,824 persons were apprehended; while in 1871 the number had lessened to 71,961, being a decrease of 863. In 1833, there were 11,393 drunken charges before the magistrates; ditto discharged by superintendents, 18,487; disorderly characters, 5,721—total, 35,601. While the return for 1871 is:—Drunk and disorderly characters, 13,016; drunkenness, 11,197; disorderly characters, 4,028—total, 28,241, being a decrease of 7,360, or more than one-fourth. From a return of "offences against property, committed with violence," for two quinquennial periods, the first year being 1862 and the last 1871, we find they are thus recorded:—Burglary, 134 in 1862 and 109 in 1871; breaking into dwelling-houses and stealing, 105 in 1862 and 43 in 1871; into shops, 16 in 1862 and 25 in 1871: robbery, 123 in 1862 and 102 in 1871; and assaults with intent to rob, 37 in 1862 and 13 in 1871, being a reduction of nearly one-fourth of the total amount. The same return shows the valuable working of the Prevention of Crime Act, or, as it is better known, the Habitual Criminals Act. In 1869 crimes of violence had risen to a total of 441, while there was every probability of a still further increase. The strong repressive powers vested in the executive police were immediately acknowledged by the criminal classes, for in the following year the number had fallen to 326, although for some years previous there had been a general advance.

ACCIDENTS IN COAL MINES.—Her Majesty's Inspector of Mines has made a brief report to the Secretary of State, showing a large diminution of loss of life by accidents during the inspection of coal mines. In the ten years 1851-1860 the number of separate fatal accidents in a year averaged one for every 318 persons employed; in the ten years 1861-1870 they averaged only one to every 388 persons employed. In the first year of the whole series there was a a fatal accident to every 310, and in the last year to every 423 persons employed. In the ten years 1851-60 the annual loss of life averaged one to every 245 persons employed; in the ten years 1861-70 one to every 300 persons employed. In 1851 one in every 219 lost his life; in 1870 only one in every 354. The number of persons employed in and about the collieries is computed at 216,217 in 1851, 282,473 in 1861, 350,894 in 1870. The great diminution in the loss of life has been in explosions and

accidents in shafts, being those over which the management has most control; but the improvement has been great also in respect of falls of roof and coal, in regard to which the miners have chiefly to take care of themselves. The only increase has been in miscellaneous accidents. The whole loss of life by colliery accidents in the whole twenty years amounted to 20,644. In 1851, the first year of the twenty, 984 of the 216,217 persons employed lost their lives; in 1870 only 991 of the 350,894 persons employed.

6. EDUCATION, SCIENCE, AND ART.

ANNUAL PARLIAMENTARY GRANTS FOR EDUCATION IN ENGLAND FROM 1833 TO 1871.

1833—1838	£20,000	1860 . .	798,167
1839—1841	30,000	1861 . .	£803,794
1842—1844	40,000	1862 . .	842,119
1846—1850	115,000	1863 . .	804,002
1851 . .	150,000	1864 . .	705,404
1852 . .	160,000	1865 . .	693,078
1853 . .	260,000	1866 . .	694,530
1854 . .	263,000	1867 . .	705,865
1855 . .	396,921	1868 . .	781,324
1856 . .	451,213	1869 . .	840,711
1857 . .	541,233	1870 . .	914,721
1858 . .	663,435	1871 . .	1,458,402
1859 . .	836,920	1872 . .	1,551,560

EDUCATION IN IRELAND.—From the last annual report of the Commissioners of National Education in Ireland, it appears that on the 31st December, 1870, there were 6,806 schools in operation, which had on their rolls 998,999 children, with an average daily attendance for the same period of 359,199. At the close of the year 1871 the number of schools in operation was 6,914. The total number of children on the rolls within the year was 1,021,700, and the average daily attendance of children for the year was 363,850. There was, therefore, an increase of 22,701 on the rolls, and of 4,651 in the average daily attendance. At the end of the year 1871, the commissioners had on their list, vested either in trustees or in the board, or secured by bond, 1,314 school-houses, containing 2,000 rooms, accommodating distinct schools. The number of non-vested schools in connection with the National Board on the 31st Dec., 1871, was 5,089. The pupils were in these mixed schools distributed thus:—126,785 Protestant pupils mixing with 28,285 Roman Catholic pupils in 1,166 schools, taught exclusively by Protestant teachers: giving to each school an average of 108·7 Protestant, and 24·2 Roman Catholic pupils. 15,397 Protestant pupils mixing with 12,119 Roman Catholic pupils in 123 schools, taught conjointly by Protestant and Roman Catholic teachers; giving to each school an average of 125·1 Protestant and 98·5 Roman Catholic pupils; 26,863 Protestant pupils mixing with 364,347 Roman Catholic pupils in 2,659 schools, taught exclusively by Roman Catholic teachers: giving to each school an average of 10·1 Protestant and 13·7 Roman Catholic pupils. The returns show the religious denominations of the 19,121 pupils on the rolls of the metropolitan, and the district and minor model schools, for the year ended the 31st December, 1871. It appears that 6,505 were of the Established Church, 5,932 were Roman Catholic, 5,342 were Presbyterians, and 1,342 belonged to other religious persuasions.

NATIONAL GALLERY.—The annual report of Mr. Boxall, the director of the National Gallery, states that the great purchase of the year 1871 was that of 77 pictures and 18 drawings, bought of Sir R. Peel for 75,000*l*. The only other purchase of the year was one of a picture by David Teniers of his own château, bought for 1,000*l*. Two bequests were received in the year—a portrait of Francesco Ferrucci, by Lorenzo Costa, bequeathed by Sir A. C. Sterling; and John Gibson's marble bust of the painter, W. Bewick, bequeathed by Mrs. Bewick. Sir R. Wallace presented to the National Gallery in 1871 Gerard Terburg's "Peace of Munster." The trustees have accepted the loan, for a limited period, from the Duke de Ripalda, of the altar-piece by Raphael, formerly in the convent of the nuns of Saint d'Antonio di Padova, at Perugia. The daily average attendance at Trafalgar-square in 1871 was 4,880. The number of visitors in the year was 911,658, and at South Kensington 939,329.

THE BRITISH MUSEUM.—The accounts of the British Museum for the year 1871 show that 418,094 persons were admitted to view the general collections, a number which is smaller than for either of the preceding four years. The number admitted on Monday and Saturday evenings in the summer declined from 2,228 in 1870 to 1,805 in 1871. There was, besides the above, an increased number of persons—viz., 105,130—admitted to the Reading Room for the purpose of study or research; the average was 361 a day, and it is estimated that each reader consulted on an average 12 volumes in the day. The additions to the Library in the year include 30,219 volumes and pamphlets, 23,588 parts of volumes or separate numbers of periodical publications and works in progress, 10,916 playbills, pieces of music, broadsides, ballads, Parliamentary papers, and miscellaneous items; the whole number of articles received amounting to 68,579*l*.

PROGRESS OF EDUCATION IN GREAT BRITAIN.—The following table, compiled from the last official returns, exhibits the progress of education in Great Britain, distinguishing England and Wales, and Scotland, in the fifteen years from 1857 to 1871:

Years ended 31st August.	Number of Schools inspected.	Number of Children who can be Accommodated.	Average number of Children in Attendance.	Number of Children present at Inspection.
	ENGLAND and WALES (including ISLE OF MAN and ROMAN CATHOLIC SCHOOLS for GREAT BRITAIN.)			
1857	4,438	841,215	531,210	602,557
1858	5,435	1,001,097	636,048	698,303
1859	5,531	1,054,813	674,602	757,082
1860	6,012	1,158,827	751,325	830,971
1861	6,259	1,215,782	773,831	879,884
1862	6,113	1,292,560	813,850	906,158
1863	6,227	1,315,988	846,805	932,603
1864	6,470	1,332.553	862,817	983,928
1865	6,865	1,470,473	901,750	1,081,480
1866	7,134	1,510,721	919,922	1,116,374
1867	7,601	1,605,409	978,332	1,210,301*
1868	8,051	1,724,569	1,060,082	1,332,533*
1869	8,592	1,838,416	1,153,572	1,448,299*
1870	8,986	1,950,641	1,255,083	1,565,363*
1871	9,521	2,092,984	1,345,802	1,651,169*
	SCOTLAND (exclusive of ROMAN CATHOLIC SCHOOLS, included above).			
1857	960	113,356	95,486	98,315
1858	1,206	154,867	124,979	123,441
1859	1,055	154,228	126,799	123,049
1860	1,260	161,421	132,909	131,961
1861	1,446	180,701	146,104	148,806
1862	1,456	183,680	150,999	151,268
1863	1,512	196,794	162,120	160,138
1864	1,421	188,904	148,317	149,363
1865	1,573	207,335	155,995	164,575
1866	1,619	213,487	162,133	171,230
1867	1,739	231,898	169,131	180,799
1868	1,843	246,041	181,698	195,132
1869	1,745	237,928	179,214	191,203
1870	1,963	264,594	198,448	215,165
1871	1,944	264,041	201,393	214,840
	TOTAL FOR GREAT BRITAIN.			
1857	5,398	954,571	626,696	700,872
1858	6,641	1,155,964	761,027	821,744
1859	6,586	1,209,041	801,401	880,131
1860	7,272	1,320,248	884,234	962,932
1861	7,705	1,396,483	919.935	1,028,690
1862	7,569	1,476,240	964,849.	1,057,426
1863	7,739	1,512,782	1,008,925	1,092,741
1864	7,891	1,521,457	1,011,134	1,133,291
1865	8,438	1,677,808	1,057,745	1,246,055
1866	8,753	1,724,208	1,082,055	1,287,604
1867	9,340	1,837,307	1,147,463	1,391,100*
1868	9,894	1,970,610	1,241,780	1,527,665*
1869	10,337	2,076,344	1,332,786	1,639,502*
1870	10,949	2,215,235	1,453,531	1,780,528*
1871	11,465	2,157,025	1,557,195	1,866,009

* Including in 1867, 24,876; in 1868, 36,768; in 1869, 48,855; in 1870, 63,704; and in 1871, 73,360, evening scholars examined by written papers, pursuant to Articles 142–149 of Revised Code.

EDUCATION IN SCOTLAND.—The following particulars as to the children under education in Scotland, are taken from first volume of the Report on the Scotch Census of 1871:—The total population of Scotland was 3,360,018 persons, and of that number 629,235 were between the ages of 5 and 13 years—that is to say, 18·72 per cent. of the population of Scotland were between the ages of 5 and 13 years—the ages to which the educational statistics alone refer. Of the total number of 629,235 children between the ages of 5 and 13 years, 494,860 were in the receipt of education, which shows that 14·72 per cent. of the total population were in the receipt of education, or what is more important to know, that of the total children at the ages specified, 78·64 per cent. were in the receipt of education, while 21·36 per cent. were receiving no education. It is always of importance to endeavour to ascertain whether we are advancing or retrograding in the matter of education. Unfortunately for strict comparison, the education statistics of 1861 were taken up at different ages from those of 1871, including two years more of the life of the children, viz., from 5 to 15 years. They thus included the number of children from 13 to 15 years of age who were not included in the Educational Returns of the Census of 1871. Still, though not rigidly comparable, they may be compared in a general way, and show in a very favourable light the Educational Statistics of 1871. Thus: Though the children living at the ages 5–13 in 1871 only constituted 18·72 per cent. of the total population, those in the receipt of education at these ages constituted 14·72 per cent. of the total population. In 1861, on the other hand, the total children from 5 to 15 years of age constituted 22·40 per cent. of the population: but the proportion of children in receipt of education was so much lower than in 1871, that although the numbers included in the receipt of education embraced two additional years of life, viz. 13–15 years, the proportion of children in the receipt of education only constituted 14·34 per cent. of the total population. That is to say, that although the whole children who were in the receipt of education between the ages of 13 and 15 were added to the returns of 1861, the proportion fell far short of that of 1871. In so far, therefore, as this test can show such a fact, education has advanced since 1861.

SCIENCE AND ART SCHOOLS.—It appears from the Report of the Science and Art Department for 1871 that the numbers of persons who during the year attended the School of Science and Art, receiving aid from the Parliamentary vote, shows a continued increase on those of the previous year; and especially in the number of persons receiving instruction in science and art applicable to industry, which has risen from 34,283 attending science schools in 1870, to 38,015 in 1871, or upwards of 10 per cent.; while the number of individuals instructed in art increased from 187,916 in 1870, to 212,501 in 1871, or 13 per cent.

The attendances at lectures at the South Kensington Museum numbered 9,031. At the Royal School of Mines there were 15 regular and 122 occasional students; at the Royal College of Chemistry 148 students; at the Royal School of Naval Architecture there were 42; and at the Metallurgical Laboratory, 35. The evening lectures at the Royal School of Mines were attended by 6,653 artisans, school teachers, and others; and 81 science teachers attended the special courses of lectures provided for their instruction at South Kensington. At the Royal College of Science, Ireland, there were 22 associate or regular students, and 30 occasional students. The various courses of lectures delivered in connection with the department in Dublin were attended by 3,148 persons; and at the evening popular lectures, which were given in the Edinburgh Museum of Science and Art during the session 1870–71, there was an attendance of 1,159. The total number of persons, therefore, who received direct instruction as students, or by means of lectures, in connection with the Science and Art Department in 1871, was upwards of 271,000, showing an increase as compared with the number in the previous year of 17,000, or 6·6 per cent.

The museums and collections under the superintendence of the Department in London, Dublin, and Edinburgh have been visited during the past year by 1,781,123 persons, showing a decrease of 66,806, or about 3·6 per cent. on the number in 1870. The number of readers at the Art and Educational Libraries at South Kensington and at the Library of the Royal Dublin Society continues to increase; having been 51,809 in 1871, or 1,756 more than in the previous year. The returns received of the number of visitors at the Local Art and Industrial Exhibitions, to which objects were contributed from the South Kensington Museum, show an attendance of upwards of 86,000, the number in 1870 having been 816,000—inclusive, however, of the attendance of 582,569 at the Islington Workmen's Exhibition. The total number of separate attendances during the year 1871, as shown by the returns of the different institutions and exhibitions in connection with the department, has been upwards of 2,190,000. This total, compared with that of the previous year irrespective of the attendance at local exhibitions, which was exceptionally augmented last year by the various exhibitions, presents a decrease of 2·4 per cent. in 1871; the respective totals being 2,157,000 in 1879, and 2,104,000, or 53,000 less, in 1871. The expenditure of the department during the financial year 1871–72, exclusive of the vote for the geological survey, amounted to 191,521*l.* 10*s.* 9*d.*

---

7. SOCIAL ECONOMY.

TEN YEARS' WORK AT THE POST-OFFICE SAVINGS BANKS.—The following return shows the number and amount of deposits in, and withdrawals from, the Post-office Savings Banks from their commencement, on the 16th September, 1861, to the 16th September, 1871; together with the amount transferred from old savings banks and the balance due to depositors; the amount paid to, and received from, the National Debt Commissioners, and the balance remaining to be paid to them on the above date. Deposits. number, 14,585.525; amount, 44,198,743*l.* Withdrawals: number, 4,843,996; amount, 28,044.539*l.* Amount transferred from old savings banks, 2,604.688*l.* Balance due to depositors, 16,154,204*l.* Amount paid to the National Debt Commissioners, 15,972,280*l.* Amount received from the National Debt Commissioners, 30,052*l.* Balance remaining to be paid to the National Debt Commissioners, 211,975*l.*

IRISH FRIENDLY SOCIETIES.—The Registrar of Friendly Societies in Ireland gives an account of above 400 from which he received returns in 1871, chiefly tontine and burial societies. The returns are remarkable for showing a practice of making, at Christmas, a division of money among the members nearly equal to the sums spent on the more legitimate object of making burial payments and sick benefit payments. The Registrar points out that some of the societies then retain a ridiculously small sum in hand, and, in fact, might as well be dissolved at the end of each year. The result is practically to destroy the certainly of a provision for members in their old age. The list of societies shows the year's receipts 62,000*l.*, expenses of management under 10,000*l.*, burial payments and sick benefit payments 17,000*l.*, divided among the members nearly 15,000*l.*, and funds left in hand at the end of the year 24,000*l.*, but a very large proportion of the societies had not 20*l.* in hand. There are not very many loan societies in Ireland, and co-operative societies do not seem to flourish there. The returns obtained include a society in Dublin "for the relief of distressed literary teachers and their families," having a capital of 5,237*l.* New Three per Cents. This institution was formed in 1789 by a few literary gentlemen, for the support of superannuated literary teachers and their families. Dr. Law, then Bishop of Elphin, became president, and contributed 50*l.* a year to its funds. The society was to consist of honorary members subscribing to the funds, and literary teachers admitted by ballot, and paying an entrance fee and a subscription of a guinea a year. The number of members is now only 11, and the total subscriptions for 1871 only amounted to 3*l.* 3*s.*

SEAMEN'S REMITTANCES.—In the year 1871, 3,207 money orders were issued at foreign ports to seamen, payable at ports in the United Kingdom. The orders were for the payment of sums amounting together to 39,158*l.* At Havre 703 orders were issued for payment in this country of sums amounting to 9,252*l.*; at Hamburg, 566 orders for 7,976.; at Rotterdam, 391 orders, for 5,300*l.*: at Antwerp, 417 orders, for 4,996*l.*; at Dunkirk, 280 orders, for 2,535*l.*; at Bremerhaven, 153 orders, for 2,201*l.*; at Amsterdam, 142 orders, for 2,114*l.*; at Marseilles, 118 orders, for 1,146*l.* The other ports show smaller amounts, going down to one order issued at Para for payment of 10*l.* in this kingdom, and one at Archangel for 28*s.* The British Consuls issue the orders.

POST OFFICE ANNUITIES.—Under the Act of 1864 the Government have granted, through the Post Offices, 2,299 contracts for annuities, amounting in the whole to 47,440*l.* The sums received for the purchase of them amounting to 451,117*l.* The sums paid to annuitants down to the end of 1871 amounted to 105,900*l.*, the payments being 9,939 in number. At the close of the year 1871 there were in existence 1,798 contracts for immediate annuities, amounting to 37,132*l.*, and 258 for deferred annuities, amounting to 5,015*l.* 95 contracts for annuities amounting to 1,886*l.* had been closed by death; 147 had lapsed by default, &c. The amount withdrawn from the fee fund for expenses is stated at 1,654*l.*

GOVERNMENT LIFE INSURANCES.—In the year 1871 358 new contracts were entered into at the post offices for payments at death of sums amounting in the aggregate to 27,695*l.* The receipts of the year on insurances amounted to 6,482*l.* Sums amounting to 1,744*l.* were paid by the Post Office in the year on 59 contracts of insurance. At the close of the year there were 2,709 insurances current, for sums amounting in the whole to 208,079*l.* The accounts state that from the commencement of business in April, 1865, down to the end of 1871, the Post Office had received 29,181*l.* on account of life insurances, had invested 28,751*l.* with the National Debt Commissioners, and received from them 4,499*l.* for the payment of insurances fallen due, and had paid 5,081*l.* under such insurances: and there appears a balance of 429*l.* in the hands of the Postmaster-General.

MILITARY SAVINGS-BANKS.—The account of these banks for the financial year 1870–71, shows 163,664*l.* deposited in the year; 7,012*l.* interest allowed in the year on deposits, and 195,686*l.* withdrawn. The amount due from the public, including the army charitable funds, declined from

280,320*l.* at the beginning of the year to 255,009*l.* at its close. The number of accounts open at the latter date was 14,313. Five years previously there were 4,000 more accounts open, and the amount deposited was more by 85,000*l.*

SAVINGS BANKS.—The amount due to depositors in the (trustee) savings banks of the United Kingdom amounted on the 20th of November, 1871, to 38,820,458*l.*—viz., 32,017,282*l.* in England and Wales, 4,119,902*l.* in Scotland, 2,220,575*l.* in Ireland, and 462,699*l.* in the Channel Islands. Every one of these items shows an increase over the return for the preceding year; the total shows an increase of 861,000*l.* The number of accounts also increased to 1,404,078—viz., 1,112,052 in England and Wales, 207,870 in Scotland, 63,073 in Ireland, 21,083 in the Channel Islands. The rate of interest paid to depositors averaged 2*l.* 19*s.* 5*d.* per cent. The assets of the banks comprised 38,640,022*l.* in the hands of the National Debt Commissioners, and 378,841*l.* surplus fund, also in their hands, besides 305,110*l.* in the hands of the several treasurers of the banks. Besides these deposits in the trustee savings banks, there was 17,025,003*l.* due to depositors in the Post Office savings banks at the end of the year 1871.

8. EMIGRATION.

EMIGRATION IN 1871.—The number of emigrants who left the United Kingdom in 1871 was 252,435, being a decrease as compared with 1870 of 4,505, and as compared with 1869 of 5,592. The following table shows the nationality of the emigrants of 1871 and of the previous seven years:—

Year.	English.	Scotch.	Irish.	Foreigners.	Not distinguished.	Total.
1864	56,618	15,035	115,428	16,942	4,877	208,900
1865	61,345	12,870	100,676	28,619	6,291	209,801
1866	58,856	12,307	98,890	26,691	8,138	204,882
1867	55,494	12,866	88,622	31,193	7,778	195,953
1868	58,268	14,954	64,965	51,956	6,182	196,325
1869	90,416	22,559	73,325	65,752	5,975	258,027
1870	105,293	22,935	74,283	48,396	6,033	256,940
1871	102,452	19,232	71,067	53,246	6,438	252,435

The most striking feature of the emigration of the last three years has been the increase in the number of English emigrants, especially as compared with Irish. Previous to 1869 the Irish emigration had always been much larger than the English. In 1864, as will be seen, the numbers of English and Irish emigrants were 56,618 and 115,428 respectively, or in the proportion 33 to 67; in 1869 they were 90,416 and 73,325, or in the proportion of 55·22 to 44·78. In 1870 the English were to the Irish as 58·63 to 41·37, and in 1871 as 59 to 41. Nevertheless, as regards the proportion to population the Irish emigration is still much greater than either the English or the Scotch, the proportion in 1871 having been, of

Irish . . 1·31 per cent. of the population.
English . ·45 ,,
Scotch. . ·57 ,,

The destination of the emigrants in 1871 was as follows:—198,843 went to the United States, 32,671 to British North America, 12,227 to Australia and New Zealand, 8,694 to other places. Of the emigrants to the United States 36 per cent. were of English birth, 33 per cent. of Irish, 7 per cent. Scotch, 22 per cent. foreign, 2 per cent. not known. The emigration from the United Kingdom in 1871 took from us 153,171 males and 99,264 females. The adults comprised 29,126 married men, and 30,717 married women; 93,275 single men, and 43,323 single women. There were also 21,157 boys from 1 to 12 years old, and 18,552 girls; 5,460 male infants not a year old, and 4,829 female infants. The age of the remaining 4,130 males and 1,866 females, embarked from Liverpool, is not stated.

Of the emigrants to North America in 1871, 223,111, or 96 per cent., went in steamers, and 8,403 in sailing vessels. The Commissioners received intelligence of the deaths of 100 among 201,130 of the former, which, taking the voyages at 12 days, is equal to a mortality of 15·11 per 1,000 in the year. Returns made to the Emigration Board show 702,488*l.* remitted in 1871 to this country from the United States and Canada, of which 310,990*l.* was in the form of prepaid passages. These remittances were almost entirely made by Irish emigrants to their relations in Ireland. The 71,067 Irish emigrants of 1871 were equal to about 64,000 statute adults, and the amount remitted in the shape of prepaid passages would have sufficed to take more than three-fourths of the whole number to America. In the last 24 years upwards of 17 millions sterling have been thus sent

home by emigrants in America to their friends, besides unascertained amounts sent through private hands. The Commissioners mention that they have assisted 204 men (in all) who had been discharged from the dockyards and arsenals, to commute their pensions for the purpose of emigrating; the amount of their commuted pensions was 10,732*l*. Of these men 72 emigrated to the United States, 101 to Canada, and 10 to Queensland, 10 to New South Wales, 2 to Victoria, 8 to the Cape, and 1 to New Zealand. In the year 1871 the Commissioners prosecuted 8 persons under the Passengers Acts, 7 of them stowaways; all were fined. The emigration officers recovered sums amounting to 3,862*l*. for emigrants without resort to legal proceedings; 2,581*l*. was thus recovered at Cork. The proposed Emigration Convention with the United States, to establish a uniform system for passenger ships, and to give the courts of the two countries jurisdiction over each other's passenger ships at sea, is still under consideration. The Convention was proposed in the first instance by the United States' Government.

Effect of Emigration on the Increase of Population.—The census of 1871 enables the Commissioners to calculate the effect of emigration on the increase of population in the United Kingdom. In England and Wales, in the ten years 1861-71, the increase of population was 3,243,049, equal to 1·61 per cent. per annum; of this number 605,165 (less than a fifth) were taken off by emigration. The increase of the population of Scotland in the ten years was 444,401, equal to 1·45 per cent. per annum; of this number 148,082 (or one-third) were taken off by emigration. The increase of the population of Ireland in the ten years was 422,374, equal to 0·72 per cent. per annum; but nearly double that number—viz., 818,582—were lost by emigration, and the increase turned into a decrease. The small amount of the increase in the population of Ireland is attributed principally to the emigration of former years, which carried out of the country an excessive proportion of those between 20 and 35 years of age, on whom the increase of a population mainly depends. These calculations, however, must be taken as subject to be affected by the return immigration into the United Kingdom, which of late years has been considerable, but of which there are not precise details. The Commissioners are able, however, to state that 53,827 immigrants came into this country in 1871, of whom 47,726 came from the United States, 3,997 from British North America, 1,994 from Australia, and 110 from other places. 17,625 were cabin and 36,202 steerage passengers.

The great and increasing excess of females over males in the population of the United Kingdom is largely due to emigration. In the last 10 years 2,128,235 emigrants have sailed from the United Kingdom; the males have been 1,279,240, but the females only 848,995. The Commissioners observe that, however urgent the demand for female domestic servants in the United States and the colonies, and however great the advantages held out, it is not to be expected that young women will leave their homes to seek their fortunes in new countries with the same readiness and courage as men. For women of a superior class new countries offer but few openings. There is no caution more constantly repeated by the colonial authorities than that women above the class of domestic servants, and not willing to undertake menial duties, should not emigrate to the colonies.

---

9. THE POST OFFICE.

Progress in 1871.—We learn from the annual report of the Postmaster-General, that the number of Post-offices in the United Kingdom was increased last year by about 160: making the present number nearly 12,000, of which about 850 are head offices. The number of road and pillar letter boxes was increased by about 600; making a total of nearly 8,000. Thus, the whole number of public receptacles is now nearly 20,000, as compared with rather more than 14,000 ten years ago, and with little more than 4,500 before the establishment of penny postage in 1840. In London alone there are now nearly 1,500 such receptacles. The plan of branch offices, serving as minor centres for postal duty, which, while benefiting the districts wherein they are placed, afford much relief to the chief office (a plan first brought into use in London, and subsequently extended to several large towns) has now been introduced at Newcastle-on-Tyne, Cardiff, and Portsmouth. Wherever the department continues to carry on telegraph business in any offices which were occupied by the Telegraph Companies, and wherever it has opened an additional office for telegraph purposes, it has also arranged to transact postal business, to issue and pay money orders, and to receive and pay moneys on savings bank account. A very large amount of additional accommodation for the latter purposes has thus been afforded to the public. Brighton, Hastings, Southampton, Grimsby Hull, Liverpool, and Newcastle are among the many towns in which this additional accommodation has been given. At more than 400 places free deliveries have been established for the first time, and at nearly 700 other places the deliveries have been extended in their area, increased in number, or otherwise improved. The mail bag exchanging apparatus is now used at more than 100 railway stations.

LETTERS, POST CARDS, NEWSPAPERS, AND BOOK PACKETS.—On the 5th of October last, the reduction in the rates of postage was carried into effect; the inland pattern and sample post, as distinguished from the letter post, being at the same time discontinued. To arrive, therefore, at the number of ordinary letters last year, as compared with the number in previous years, the estimated number of sample and pattern packets posted as letters during the last quarter of the year (amounting to about 2½ millions) has been subtracted. With this correction, the total number of letters last year was nearly 915 millions: which, as compared with 1870, shows an increase of 52 millions, or with the number ten years ago, of 322 millions, or with the year previous to the introduction of penny postage (1839) an increase (omitting franks) of 839 millions; making the present number of letters twelve-fold the number in 1839. The great increase last year, attributable chiefly, no doubt, to the prosperous state of the country, was equal to rather more than 6 per cent.; as compared with 4 per cent., the average of the previous five years. The number of post cards was rather more than 75 millions. About 3,300,000 of the letters last year (equal to about one in 300) were registered; being an increase of about 11 per cent. on the number in the previous year. The numbers of newspapers and of packets containing matter entitled to pass under the book post transmitted last year were 99 millions and 103 millions respectively; showing an increase of 72 millions on the joint numbers in the previous year; an increase attributable chiefly, no doubt, to the reduction in the rates of postage; which, while in operation during only one quarter of 1870, applied to the whole of 1871. There were about 3½ millions of letters last year which, owing to wrong addresses and other causes, found their way to the returned letter office. Of these about 170,000 were sent back to foreign countries, and of the remainder it was found practicable to reissue to corrected addresses or to return to the senders more than nine-tenths. The number of letters passing through the returned letter office was less than in the previous year; but the difference was more than counterbalanced by post cards which could not be delivered, amounting to nearly 300,000. About 80,000 of the undelivered letters contained property of different kinds; and of these 340 had no address, although in not a few instances the latter enclosed coins or bank notes. Besides the property thus posted, nearly 11,000 articles of sufficient value to be described and recorded were found loose in different post offices, and this in addition to nearly 50,000 postage stamps. The total number of letters last year posted without any address was nearly 15,000. A large portion of the undelivered newspapers (about a million in all) were intended for transmission abroad but were stopped in their progress owing to insufficient payment of postage; notwithstanding the care taken by the department by insertion in the postal guide and by the exhibition of notices at the post offices, to prevent misconception.

LICENCES.—Last year the Post-office, on behalf of the Board of Inland Revenue, issued upwards of 1,000,000 licences of different kinds; more than half of which were for keeping dogs.

MONEY ORDERS.—During the year 1871, nearly 250 additional money order offices were opened, as compared with 37 in the previous year; the comparatively small number in 1870 being attributable, chiefly, to the establishment, in that year, of the postal telegraphs, and to consequent delays in adding money order business to any post-office until it could be determined whether to the same office the telegraph might not be extended; the two provisions generally, though not always, being united. The whole number of money order offices in the United Kingdom is now upwards of 4,300. In addition to previous money order conventions with France, Belgium, and Switzerland, similar conventions were entered into last year with Germany, Denmark, the Netherlands, and the United States; and another, which came into operation on the 1st of July last, has been concluded with Italy. The French convention, however, is still in abeyance. The number of inland money orders increased from upwards of 10,200,000 in 1870 to more than 12,100,000 in 1871, or by more than 18 per cent.; an increase now extending to more than 24 per cent. This increase is owing chiefly to the large reduction in the commission; a concession which, however beneficial to remitters of small sums of money, is attended with a great loss in revenue; since for money orders under the value of one pound, and much more so for those under ten shillings, the payment is insufficient even to cover expenses. The general result of the late concession is, that whereas, before, the profit of the money order department had gradually risen to nearly 50,000*l.* per annum, it has now fallen to a rate of but little more than 10,000*l.* per annum; fully half of which is obtained from foreign and colonial orders.

NET REVENUE.—The net revenue last year was about 1,269,000*l.*, as compared with 1,494,000*l.* in 1870; showing a decrease of 225,000*l.* If, as was formerly the case, the Post-office had been credited with the postage due on letters conveyed on behalf of other departments of Government, amounting last year to about 135,000*l.*, the gross revenue of the year, including about 10,000*l.* for postage in relation to the savings banks (the accounts of which do not enter into the ordinary accounts of the Post-office) would have been considerably over 5,000,000*l.*, and the net revenue upwards of 1,400,000*l.*

TELEGRAPHS.—The development of the Telegraph Department proceeded steadily and rapidly during the year 1871. More than 1,300 new telegraph offices were opened during the year; making the whole number at the end of 1871, upwards of 5,000; while the messages transmitted increased by about 25 per cent., the whole number during the year having been nearly 12,000,000. Besides these messages there were about 700,000 sent on behalf of the newspaper press. Not only has there been a large increase in the number of offices, but concurrently with this, and contrary to what might perhaps have been expected, there has been a considerable increase in the average number sent from each office. Of the messages sent, nearly one-half were forwarded from twelve towns, viz., London, Liverpool, Manchester, Glasgow, Edinburgh, Dublin, Newcastle, Birmingham, Bristol, Hull, Belfast, and Leeds. With respect to these messages it may be observed, that, exclusive of porterage, the charge is less, by sixpence a message, on the average of the whole kingdom, than the charge of the companies would have been; so that the money gain to the senders of messages in the twelve towns named, without taking porterage into account, is at least 135,000*l.* per annum. From a careful examination of nearly 7,000 messages which were forwarded to all parts of the kingdom, on one day in February, 1872, from the principal telegraph offices in London and the other large towns of the kingdom, it appears that whereas the average charge to the public on each of these messages was, *inclusive of porterage*, little more than 1*s.* 1*d*½., it would have been, at the rates of the companies, nearly 2*s.* 2*d.* If this holds good with regard to the whole number of messages, the public have gained sixpence per message by reduction of tariff, and sixpence per message by reduction of porterage. The gross earnings of the telegraphs for the financial year ending 31st March last, were estimated at nearly 800,000*l.*; and I am informed that this estimate has been realised.

10. MISCELLANEOUS.

ELECTORS.—A return, obtained during the last session on the motion of Sir Charles Dilke, shows that the total number of electors on the Parliamentary register in cities and boroughs in England and Wales is 1,250,019; in Scotland, 171,912; in Ireland, 49,025; total, 1,470.956. The total number of municipal electors in England and Wales is 925,032; in Scotland, 161,462; and in Ireland, 14,671; total, 1,101,165. The total number of county voters in England and Wales is 801,109; in Scotland, 78,919; in Ireland, 175,439; total, 1,055,467. From another return moved for by Sir J. Lubbock, it appears that the number of electors on the registers in the counties of the United Kingdom in 1871, was as follows:—England and Wales, 800,314; Scotland, 79,750; Ireland, 175,149; total, 1,055,213.

STATISTICS OF LONDON TRAFFIC.—Some statements respecting the street traffic of London were made before a Select Committee of the House of Commons during the past session. Observations taken in Cheapside, on a particular day, showed that during the 16 hours, from 8 a.m. to 12 p.m., there passed as follows:—Omnibuses, 2,604; cabs, 3,477; waggons, 1,438; carts, 1,104; private cariages on four wheels, 326; private carriages on two wheels, 83; foot passengers, 54,677; passengers in omnibuses, 21,247; in cabs, 3,307; in private carriages, 1,022; and on horseback, 4. The railway traffic at Ludgate-hill Station was stated at about 8,000,000 journeys per annum. Observations made at various spots gave the following results as to the numbers passing during 12 hours:—In Oxford-street, 8.236 carriages; Holborn, 10,560 carriages; near the Mansion-house, 13,660 carriages; Newgate-street, 33,000 foot passengers; Poultry (near to the opening of Queen Victoria-street, 75,100 foot passengers.

SCHOOLS AND SCHOLARS IN THE UNITED STATES.—A census return has been issued, showing that the whole number of schools in 1870 in the United States of all kinds was 141,629, the number of teachers 221,042, of whom 93,329 were male and 127,713 female. The total number of pupils was 7,209,938, 3,621,996 being male and 3,587,942 female. The total income from all sources of all the schools was $95,402,726; of this, $3,663,785 came from endowments, $61,746,039 from taxation, and $29,992,902 from all other sources, including tuition. The total income reported is nearly three times that for 1860 and nearly six times that for 1850. It is considered quite impossible that there should have been any such increase, and the apparent increase is, without doubt, referable to a failure in former censuses to secure complete returns. Of the total number of schools returned, the public schools are 125,059; classical, professional, and technical, 2,545; and others, 14,025. The total number of teachers in public schools is 183 198, and in the classical, professional, and technical, 12,767. The number of pupils in this latter class is 245,190, and in the public schools 6,228,060.

CHRONICLE OF EVENTS AND OCCURRENCES,

Home and Foreign.

From November, 1871, *to November*, 1872.

1871.

Nov. 13. The Prince of Wales stated to be suffering from "feverish symptoms."
16. Bank Rate reduced from 5 to 4 per cent.
17. Cape diamond fields annexed to British dominions.
22. Colliery explosion at Norwood End, Sheffield, nine lives lost.
23. The Prince of Wales declared to be suffering from typhoid fever.
27. Massacre of eight boys in Havannah.
28. Rossel, Ferré, and Bourgeois shot at Versailles.
30. Bank rate reduced from 4 to 3½ per cent.

Dec. 2. A large portion of Warwick Castle destroyed by fire.
—. Brown Institution, for the study and treatment of quadrupeds and birds useful to man, opened in the Wandsworth Road.
6. Great Liberal conference at Birmingbam, on the reform of the House of Lords.
8. The Prince of Wales reported to be in a prostrate condition, and his state precarious: the Royal Family summoned to Sandringham.
—. Strike of 200 telegraph clerks at Manchester.
10. Special prayer for the Prince of Wales in churches and chapels.
12. Great solar eclipse.
13. The Prince of Wales reported to be improving slightly.
14. Bank Rate reduced from 3½ to 3 per cent.
19. The Queen left Sandringham and returned to Windsor.
—. The Orleans Princes took their seats in the French Assembly.
23. Great landslip in Cheshire.
—. The French Academy held its annual meeting after an interruption of two years.
26. The Queen's Letter to the Nation, expressing Her Majesty's deep sense of the public sympathy shown to the Royal Family during the Prince of Wales's illness, and her appreciation of the general joy at His Royal Highness's improvement in health, published in the 'London Gazette.'
28. New foreign cattle market at Deptford, on site of Royal Dockyard, formally opened.

1872.

Jan. 5. Anti-Jewish riots in Roumania.
6. James Fisk, Jun., the American speculator, assassinated at New York.
7. Great fire at Sydney, N.S.W., destroying the Prince of Wales's Opera House and property, valued at £50,000.
12. The Rev. J. S. Watson convicted at the Central Criminal Court of the murder of his wife: verdict of guilty, with a strong recommendation to mercy.
13. Hampstead Heath formally taken possession of by the Metropolitan Board of Works, and dedicated to the public use.
14. The recovery of the Prince of Wales announced to be so satisfactory that no further bulletins will be issued.
16. The first railway train connecting Turkey with Europe and skirting the Sea of Marmora entered Stamboul.
18. The Prussian Order of the Black Eagle conferred upon Prince Arthur by the German Emperor at Berlin.
20. M. Thiers and the French Ministry resigned, but the Assembly refused to accept their resignation.

Jan. 21. M. Thiers withdrew his resignation.
24. Accident on the Antibes Railway to the train from Nice to Cannes: twelve persons killed.
26. Mr. Robert Rumsey Webb, of St. John's College, announced as Senior Wrangler of the year at Cambridge.
28. Great fire at St. Goar on the Rhine.
29. The Megæra Commission closed its sittings.

Feb. 5. Signing of Treaty for cession of the Dutch colonies on the Gold Coast to England reported.
6. Fourth Session of the eighth Parliament of Queen Victoria (twentieth of United Kingdom) opened by Commission.
8. The Earl of Mayo, Viceroy of India, assassinated by a convict in the Andaman Islands.
10. Prince and Princess of Wales left Sandringham for Windsor.
12. The Right Hon. H. W. B. Brand took the chair as Speaker of the House of Commons, in the room of the Right Hon. J. E. Denison, created Viscount Ossington.
13. Viscount Ossington, late Speaker in the House of Commons, took his seat in the Lords.
15. Debate in the House of Lords on the appointment of Sir R. Collier as a paid judge of the Privy Council, resulting in a majority of two in favour of the Government.
—. Second Reading of Ballot Bill in the Commons by 105 to 51.
23. Lord Napier of Merchistown arrived at Calcutta, and took his seat in Council as Acting Viceroy.
—. The new Metropolis Water Act, compelling the companies to provide a constant supply, came into force.
27. Thanksgiving Service at St. Paul's Cathedral for the recovery of the Prince of Wales, attended by the Queen, the Royal Family, and the dignitaries of Church and State.
28. Address of congratulation, on his recovery, presented to the Prince of Wales by the Corporation of London.
29. Attack upon the Queen at Buckingham Palace.

Mar. 1. Sir Roundell Palmer's Resolutions for establishing, by public authority, a General School of Law for the Metropolis, rejected by the House of Commons by 116 to 103.
—. Letter from the Queen, thanking the country for the loyal reception accorded to Her Majesty and her children on the 27th ult., published in the 'Gazette.'
6. Collapse of the Tichborne case on the 103rd day of the trial, the jury having intervened and stated that they required no further evidence: the claimant was subsequently committed to Newgate by the Lord Chief Justice.
8. Accident to boat's crew of H.M.S. Ariadne; two officers and nine men drowned
9. Prince and Princess of Wales left England for the Mediterranean.
11. Public meeting at the Mansion-House in aid of the fund for completing St. Paul's Cathedral.
—. Collapse of the "Erie Ring," and election of new Board of Directors of the Erie Railway Company at New York.
12. Execution of Shere Allee, the murderer of Lord Mayo.
18. Anniversary of the Commune in Paris.
19. Act of Uniformity Amendment Bill, legalising shortened services, &c., read a second time in the House of Lords, on motion of Archbishop of Canterbury.
—. Sir Charles Dilke's motion, that "it is competent for the House to examine and correct abuses in the expenditure of the Civil List Revenues whenever it shall seem expedient to the wisdom of the House so to do," rejected by 274 to 2.
23. The University Boat-Race won by Cambridge by two lengths.

Mar. 25. Mr. Lowe introduced the Budget, providing for the reduction of the Income-tax from 6*d.* to 4*d.* in the pound; the extension of the abatement from £60 to £80 on all incomes under £300, with further exemptions under the House-tax, so as to include all premises occupied as offices, and the reduction by one-half of the duties on coffee and chicory.

—. First annual meeting of the Albert Hall proprietors; the total cost of the building stated to have been £206,716.

April 1. Three-hundredth anniversary of the Revolt of William Prince of Orange celebrated at Rotterdam.

3. Great fire at Yedo; two square miles of the city laid waste, 30,000 persons rendered homeless, and 300 to 400 killed.

—. Great Earthquake at Antioch; 1,500 persons killed.

—. Mr. Disraeli addressed the Lancashire Conservatives at Manchester.

4. Bank Rate raised from 3 to 3½ per cent.

8. Mr. Bonham-Carter took his seat in the Commons as Chairman of Committees and Deputy-Speaker, in succession to Mr. Dodson.

11. Arthur O'Connor tried in Central Criminal Court on the charge of intimidating the Queen on 29th of February last. The prisoner pleaded guilty, and was sentenced to one year's imprisonment, with hard labour, and to be once whipped.

—. Mr John Bright was present in the House of Commons for the first time since his long absence from illness.

—. Bank Rate raised from 3½ to 4 per cent.

15. Hurricane at Zanzibar. 150 vessels lost or stranded. Estimated loss two millions sterling.

—. Eruption of the volcano Merapi in Java; upwards of 200 lives lost.

22. The Spanish elections resulted in a majority of at least 100 for the ministerialists.

23. Carlist rising reported from Madrid.

24. Great eruption of Mount Vesuvius commenced.

25. Lord Mayo's remains buried at Dublin with a State funeral.

26. The claimant in the Tichborne case released from Newgate, bail having been given by Lord Rivers, Mr. G. Onslow, M.P., Dr. Atwood, and Mr. J. Lambert.

29. The Chapter House at Westminster, restored by Sir Gilbert Scott, opened to the public for the first time.

30. University of Strasburg opened.

May 1. Terrific cyclone at Madras: great loss of life and shipping.

—. Woman's Disabilities Removal Bill thrown out in House of Commons by 222 to 143.

—. Commencement of strike in the building trades.

2. Second reading of Government Licensing Bill in the Lords.

3. Lord Northbrook arrived at Calcutta, and was sworn in as Governor-General.

4. Don Carlos totally defeated by the Government troops.

—. Mr. Horace Greeley nominated for Presidency of United States.

6. Niblo's Theatre, New York, destroyed by fire.

8. The King of the Belgians presided at the 83rd anniversary of the Royal Literary Fund.

9. Bank rate raised from 4 to 5 per cent.

12. Plebiscite on revision of the Swiss Constitution of 1848, resulting in 13 out of 22 Cantons voting against revision.

15. Secular education reported to be established in California.

25. The Senate ratified the Supplemental Article to the Treaty of Washington abandoning the Indirect Claims.

27. Mr. Justice Keogh delivered judgment on the Galway Election Petition, declaring Captain Nolan to have been elected by unholy agencies, spiritual influence and intimidation having been largely used by the Roman priests.

May 28. The Duc D'Aumale spoke on military reorganization, in the French Assembly.
30. Bank rate reduced from 5 to 4 per cent.
June 4. Great debate in House of Lords on Earl Russell's motion for an address to the Crown on the Alabama negotiations.
8. Judgment delivered by the Privy Council in the case of Sheppard *v.* Bennett, an appeal against the decision of the Judge of the Arches, acquitting the defendant, being dismissed, and his teaching on the subject of the Real Presence declared to be within the law of the Church of England.
10. Ballot Bill read a second time in House of Lords by 86 to 56.
—. International four-oared race from Mortlake to Putney, between London Rowing Club and Atlanta Club of New York, London winning by 45 seconds, or 250 yards in distance.
12. A railway between Yokohama and Shinagawa, the first line constructed in Japan, opened.
—. Millenary Festival of University College celebrated at Oxford.
13. Telegram received from Zanzibar, stating that Mr. Stanley, of New York, had left Dr. Livingstone alive and well.
—. Bank Reduced from 4 to 3½ per cent.
14. Name of Captain Nolan erased from roll of House of Commons as Member for Galway, and Captain Trench's name inserted.
15. Court of Arbitration on the Alabama question met at Geneva, when the English agent asked for an adjournment for an indefinite period, but the American agent suggested an adjournment for two days, which was agreed to.
16. Steam boat explosion at Marseilles, 55 persons killed.
17. The Arbitrators at Geneva adjourned until the 19th instant.
19. The Arbitrators at Geneva expressed their opinion that the Indirect Claims are not capable of maintenance on the principles of International Law, and should be excluded from the consideration of the Tribunal in making its award.
—. Lock-out in the building trade in London commenced.
20. Bank rate reduced from 3½ to 3 per cent.
22. Accident on Grand Trunk Railway of Canada; 40 killed.
24. The Bethnal Green Museum opened by the Prince of Wales.
25. The American Agent announced at Geneva that his Government had consented to withdraw the Indirect Claims.
26. The first Ecclesiastical Court under the new constitution of the Irish Church sat in Dublin,
27. The withdrawal of the Indirect Claims announced by Earl Granville, in the House of Lords.
29. Treaty between France and Germany for the earlier evacuation of France by the German troops ratified at Versailles.
July 1. The Albert Memorial in Hyde Park completely uncovered, and visited by the Queen.
—. Toll gates north of London finally taken away.
2. Mr. Miall's motion for a Royal Commission to enquire into the revenues of the English Church rejected by the House of Commons by 294 to 94; Mr. Hughes' amendment to include all religious bodies in the enquiry, rejected by 270 to 41.
—. First telegraphic message from England reached Melbourne, having been despatched from London on 22nd June.
3. The international Prison Congress opened in London.
4. Terrific storm in New York, following a period of excessively hot weather, during which upwards of 1,000 cases of sunstroke had occurred, and 230 deaths.
5. Trial of the 'Glatton' turret ship, the 'Palliser' 600-lb. shot failing to effect any serious damage.
—. Intense heat at New York, upwards of 200 deaths from sunstroke during the past week.

July 5. Convalescent Hospital in connection with St. Bartholomew's Hospital opened at Lauderdale House, Highgate, by the Prince and Princess of Wales, the property having been presented for a term of years, by Sir Sydney Waterlow.
8. Opening of the 13th meeting of the Volunteers at Wimbledon.
—. The Commons' Amendments to the Lords' Amendments on the Ballot Bill considered in the Lords; optional Ballot abandoned by 157 to 138, and the amendment limiting the operation of the Bill to the year 1880, insisted on by 117 to 58.
10. The 'Gazette of the German Empire' published the order excluding Jesuits from the territory of the Empire.
11. The Baroness Burdett Coutts admitted to the freedom of the City of London in the Turners' Company.
16. Queen's prize at Wimbledon won by Serg. Michie, of London Scottish.
18. Celebration of the Millenial Festival of the establishment of the kingdom of Norway.
—. Bank rate raised from 3 to 3½ per cent.
19. Attempted assassination of the King and Queen of Spain at Madrid, their Majesties escaping unhurt.
20. Revolution at Peru.
22. One of the first elections by Ballot under the new system took place at Boston.
—. The Houses of Lords and Commons voted a pension of 1000*l.* a year to the Countess of Mayo in addition to 1000*l.* chargeable on the Indian revenues.
23. Mrs. Louisa Atkins, M.D., of Zurich, elected resident medical officer and secretary of the Birmingham and Midland Hospital for women, this being the first instance in the country of a lady being chosen for such a post.
24. Destructive thunderstorm in London and the suburbs.
—. Bill for the Abolition of Capital Punishment rejected in the Commons by 167 to 54.
—. Mr. Purchas, Incumbent of St. James's chapel, Brighton, suspended for one year by the Privy Council for refusing to obey their Lordships' monition.
25. Execution of three Communists at Versailles.
—. Debate in the Commons on the Keogh Judgment; the proposal of Mr. Butt for a committee of the whole House, with the ulterior object of passing a vote of censure on the Judge, and removing him from the bench, being rejected by 350 to 59.
—. Thunderstorms throughout England, almost unprecedented in severity; thermometer at 86 in shade in London.

Aug. 3. First stone of the Shaftesbury Park Estate, at Wandsworth, to be occupied by artisans' dwellings, laid by Lord Shaftesbury.
8. Shock of earthquake at Bridge of Allan and other places in Scotland.
10. Parliament prorogued.
—. The completion stone of the Portland breakwater laid by the Prince of Wales, the first stone having been sunk twenty-three years ago by the Prince Consort.
—. The Brighton Aquarium opened.
12. Nomination at Pontefract; first election under the Ballot Act.
15. Serious riots at Belfast by Roman Catholics.
22. The Belfast riots ceased, having continued for seven days.
—. Eighth session of the International Statistical Congress opened at St. Petersburg.
24. J. B. Johnson attempted to swim from Dover to Calais, but only succeeded in swimming for 1 hour and 25 minutes.

Sept. 2. The Registrar-General reported that "small-pox, as an epidemic, had disappeared from London."

Sept. 3. Fire at Canterbury Cathedral; roof of the east end burnt.
4. Second anniversary of the fall of the French Empire; Paris reported to be perfectly tranquil.
5. Emperor of Russia arrived at Berlin for the Imperial Conclave.
–. Emperor of Austria arrived at Berlin; festivities commenced.
–. Outbreak of rinderpest reported from Yorkshire.
–. Explosion at Hounslow Powder Mills; three deaths.
7. Total destruction of village of Zermatt, in Switzerland, by fire.
12. Close of the Autumn Manœuvres.
13. Inundation of a coal pit at Bonne Fois, Belgium; 25 deaths.
—. Severe hurricanes in Windward Islands.
14. Judgment of the Arbitrators on the Alabama case signed at Geneva, awarding the United States 15,500,000 dollars (about 3,229,166*l.* 13*s.* 4*d.*) to be paid by the English Government in final satisfaction of all claims, including interest.
—, Belgian fêtes commenced, attended by nearly 1,000 English Volunteers.
—. M. Edmond About, editor of "Le xix. Siècle," arrested by the German authorities, and imprisoned at Strasburg.
18. Dr. John Vance and a police constable sentenced to 14 days' imprisonment for tampering with voting papers at an election to the West Ham Local Board.
—. Execution of three Communists at Versailles, including one of the murderers of the Archbishop of Paris.
19. Bank rate raised from 3½ to 4 per cent.
20. Opening of the Old Catholic Congress at Cologne.
—. Oscar II. proclaimed King of Sweden and Norway.
26. Bank rate raised from 4 to 4½ per cent.
27. Freedom of City of Glasgow presented to Rt. Hon. R. Lowe.
29. Earl Dufferin, the Governor-General of Canada, made his public entry at Toronto.

Oct. 2. Collision on Caledonian Railway near Carlisle; ten passengers and the engine-driver killed, and many injured.
–. The Escurial at Madrid struck by lightning and seriously injured by fire.
3. Bank rate raised from 4½ to 5 per cent.
7. Colliery explosion at Mosley Main, 34 men and boys killed.
10. Bank rate raised from 5 to 6 per cent.
11. Republican rising at Ferroll, in Spain.
12. Prince Napoleon compelled by the officials of the Government to quit France.
15. Opening of the University of Wales at Aberystwith.
18. Freedom of the Turners' Company conferred upon Mr. Stanley, the discoverer of Livingstone, at Guildhall.
23. Emperor of Germany's decision against England on the San Juan question announced.

Nov. 1. Floods in Italy and France reported by telegraph, 60,000 persons rendered homeless in Province of Mantua.
–. The Ballot used in all boroughs throughout England in the election of town councillors.
2. Reception of the Judges, Queen's Counsel, Lord Mayor Elect, &c., by Lord Selborne, as Lord High Chancellor.
5. The City of London Library and Museum opened by the Lord Chancellor.
6. Evacuation of French territory by German troops completed at Rheims.
7. Re-election of President Grant reported by telegram from New York.

NECROLOGICAL TABLE

OF DISTINGUISHED AND NOTABLE PERSONS WHO DIED 1871–72.

1871.		Age.
Nov.	8. PARE, Rev. James Allan, M.A., for 42 years Rector of Elwick; at Newbus	72
	10. TOURGUÈNIF, Nikolai Ivanovich, Russian author; at Paris	82
	14. HATFIELD, Weston James, Proprietor and Editor of the 'Cambridge Independent Press;' at Cambridge	41
	— BENEDEK, Marshal of the Austrian Army	67
	16. THOMSON, Alex. Morrison, D.Sc. of Lond. Univ., Prof. of Geology at Sydney Univ.; at Sydney, N.S.W.	31
	17. WALMSLEY, Sir Joshua, formerly M.P. for Leicester and Bolton; at Bournemouth	77
	18. BOUVERIE, E. W. B., Major General, wounded at Waterloo; at Delapré Abbey, Northampton	83
	24. SPOONER, Chas., Princ. of the R. Veterinary Coll.; in London	66
	28. ROCK, D., D.D., Author and Archæologist; at Kensington	72
	29. GELDART, Rev. R. J., D.D., Rector of Little Billing from 1817 to 1871; at Little Billing	84
	30. TINNEY, Wm. H., Q.C., late Master in Chancery; at Torquay	87
	—. CHESTERFIELD, Earl of, M.P. for South Notts, 1860-66; at Burton-on-Trent	40
Dec.	5. CROMPTON-STANSFELD, William R., formerly M.P. for Huddersfield	81
	—. LEVASSEUR, Famous French Singer; at Paris	81
	6. SCARLETT, General Hon. Sir James Yorke; at Burnley	71
	— WOOD, W., M.P. for Pontefract in Parliament of 1857, Inventor of several improvements in carpet manufacture	55
	8. MURRAY, Sir James, M.D., Physician, Inspector of Anatomy for Ireland; at Dublin	
	12. HUDSON, George, "the Railway King;" at Belgrave Road	71
	13. BLAINE, Delamere R., County Court Judge; at Hyde Park	64
	14. HECKFORD, Nathaniel, Surgeon, Founder of the East London Hospital for Children; at Ramsgate	
	—. SMITH, Right Rev. George, D.D., late Bishop of Victoria, Hongkong; at Blackheath	57
	15. GEORGE, Rt. Hon. John, Irish Judge; at Dublin	67
	16. MOUNTSTEVEN, W. T. B., Major-General, late of 79th Highlanders, served at Waterloo; at Dartmouth	75
	—. MARRIOTT, Rev. W. B., M.A., F.S.A., Theological Author; at Eton College	48
	17. TUCKERMAN, Henry T., American Art Critic and Biographer; at New York	59
	20. BARCLAY, George, Engraver; at Green Street, London	71
Dec.	22. ELLENBOROUGH, Earl of, Governor-Gen. of India, 1841;	81
	26. KENMARE, Earl of, served in Peninsular War; at Eaton Pl.	82
	28. DIXON, James, D.D., Wesleyan Minister; at Bradford	83
	29. BRADY, Sir Francis, late Chief Justice of Newfoundland; at Bayswater	62
1872.		
Jan.	5. GILLOTT, Joseph, Steel Pen Manufacturer, introduced the use of machinery in making steel pens; at Edgbaston	72
	—. CROSSLEY, Sir F., Bart., M.P. for Halifax	55
	7. LANNO, F. G. A., French Sculptor; at Beaumont-sur-Oise	72
	8. KING, John, Member of the Burke and Wills' Exploring Expedition; at St. Kilda, Australia	

		Age.
Jan.	9. BAILEY, Crawshay, Iron Master and Railway Promoter, formerly M.P. for Monmouth; at Abergavenny . .	82
	11. SCOTT, Rev. W., M.A., Vicar of St. Olave, Old Jewry, Editor of the 'Christian Remembrancer';	59
	12. DUC DE PERSIGNI, French Ambassador at Court of St. James's; at Nice	64
	15. VERNON, Hon. G. C., Recorder of Lincoln; at Montagu Sq.	42
	—. HANKEY, John Alers, Banker; at Kensington . . .	69
	19. JACKSON, Joseph, formerly Ensign in 1st Batt. of 52nd Regiment of Foot, a Waterloo Medallist; at Gateshead.	78
	20. MOSELEY, Henry, M.A., Canon of Bristol, Author of Scientific and Educational Works	70
	21. GRILLPARZER, Franz, Poet, head of the Austrian School of Imaginative Literature	81
	22. BINGHAM, Rev. Rich., Author and Advocate of Prayer-Book Revision; at Sutton	74
	—. VERNON, Thomas, Engraver	48
	24. TRENDELENBURG, Dr. Friedrich Adolf, Professor in Berlin University; at Berlin	70
	27. BAIRD, Dr. William, F.R.S., Surgeon and Naturalist .	68
	29. STANSFELD, James, Ex-County Court Judge; at Halifax .	81
	—. ATHERSTONE, Edwin, Poet and Novelist, Author of "The Fall of Nineveh," &c.; at Bath	84
	30. CHESNEY, General, D.C.L., F.R.S., leader of the Euphrates Exploration, Author of works on Military Science; at Packolet, Co. Down	83
Feb.	4. GRATRY, Père, Prof. of Moral Theol. and member of the French Ac.; at Montreux	67
	5. POOLE, John, author of the comedy of 'Paul Pry' and other works; at Kentish Town	79
	6. PHILLIPPS, Sir Thomas, Bart., "the greatest book collector of modern times"; at Cheltenham	80
	7. HINDS, Samuel, D.D., Ex-Bp. of Norwich,; at Notting Hill	78
	8. SPALDING, M. J., D.D., Roman Catholic Primate of the United States: at Baltimore	62
	-. PEASE, Joseph, formerly M.P. for South Durham, the first Quaker sent to the House of Commons; at Darlington .	72
	-. MAYO, Earl of, Viceroy of India; assassinated in the Andaman Islands	49
	10. COCKBURN, Admiral, Comm.-in-Chief, E. Indies; at Calcutta	
	12. HUME, Hamilton, Biographer of Gov. Eyre; at Brighton .	33
	14. PATTERSON, Robert, F.R.S., Zoologist; at Belfast . .	
	16. CHORLEY, Henry Fothergill, for 35 years Musical Critic of the 'Athenæum,' and author of musical works; at Eaton Place	63
	—. DALY, Right Rev. Robert, Bishop of Cashel . . .	90
	17. MCLEOD, John, Scotch Animal Painter; at Edinburgh .	
	—. STRAKA, Dr. A. W., Prof in Univ. Coll.; at Barnsbury .	45
	21. BURNS, Colonel W. N., late of Indian Army, only surviving son of the Poet; at Cheltenham	80
	22. LEVY, Prof. A. M., author of Palæographical works; at Breslau	
	23. VICKERS, Stanley, M.P., for Wallingford; at Notting Hill	35
	24. SPENCER, Aubrey G., D.D., Bishop of Jamaica; at Torquay	77
	—. SMART, B. H., author of an English Dictionary and works on Metaphysics and English Literature . . .	85
	25. PAYNE, Serjeant, Coroner of London and Southwark; at Brunswick Square	
March	2. SCOTT, Sir James, K.C.B., Admiral, entered the Royal Navy in 1803; at Cheltenham	82

		Age.
March	3. GRANVILLE, Augustus Bozzi, M.D., Physician; at Dover	89
	–. ASHBURNHAM, Hon. Thomas, C.B., General; at Grosvenor Square	
	4. LONSDALE, Earl of, P.C., F.R.S., one of the oldest Leaders of the Conservative Party; at London	85
	6. GOLDSTÜCKER, Dr. Theodore, Sanskrit Scholar and Author, Professor in Univ. Coll., London; at Primrose Hill	51
	8. GURNEY, Rev. John P., for 49 years Vicar of Great Canfield, Essex; at Canfield	76
	9. INGRAM, Thomas, Head Gardener in the Royal Gardens at Windsor for 52 years, and servant of the Royal Family during the reign of four Monarchs; at Slough	76
	10. MAZZINI, Giuseppe, Author, celebrated as a Republican Leader in Italy; at Pisa	64
	11. AYLOTT, William, Publisher; at Islington	73
	21. BIDDULPH, Col. R. Myddleton, Lord-Lieut. of Denbighshire and formerly M.P. for the county; at Chirk Castle	67
	22. DE LA RIVE, Pictet, Anatomist and Zoologist; at Geneva	63
	23. BURROUGHES, H. N., for years M.P. for East Norfolk	83
	27. EMMETT, General A., R.E., served in Peninsular War; at Brighton	83
April	1. MAURICE, Rev. Fred. Denison, M.A., Professor of Moral Philosophy at Cambridge, Author, &c.; at Bolton Row	68
	–. HENDERSON, William, M.D., late Professor of General Pathology in Edinburgh University; at Edinburgh	62
	–. CAMPBELL, Henry Dundas, Lieut.-Col., Deputy Lieut. of county of Hants, formerly Gov. of Sierra Leone; at Peckham	74
	2. TERROT, C. H., D.D., Bishop of Edinburgh; at Edinburgh	81
	–. PEEL, John, M.P. for Tamworth; at Middleton Hall	
	–. MORSE, Samuel F.B., Inventor of the Recording Electric Telegraph	81
	7. DOWNALL, John, Archdeacon of Totnes and Preb. of Exeter; at Bournemouth	
	9. WHITE, J. Trevor, M.A., formerly Editor of the 'Union,' and Sub-Editor of the 'Tablet' newspapers, and once a Clergyman of the English Church; at Westminster	57
	10. BINGHAM, Rev. J. B., B.D., for 51 years Vicar of Great Gaddesden and Rector of St. Martin, Ludgate; at Great Gaddesden	84
	12. BLACK, W. H., F.S.A., Editor of 'National Records'	74
	15. SIEBE, Augustus, Inventor of the Close Diving Helmet Dress	84
	16. NORRIS, Rev. James, D.D., President of Corpus Christi College, Oxford; at Oxford	76
	—. SHORT, T. Vowler, D.D., late Bishop of St. Asaph; at Gresford	80
	17. BELLAIRS, Rev. Henry, Rector of Bedworth and Hon. Canon of Worcester, formerly served in Royal Navy and was engaged at the Battle of Trafalgar, and in the Army, when he took part in Battle of Waterloo; at Paignton	81
	18. SEWELL, H. W., Swordbearer of the City of London; at Mortimer Road, N.W.	73
	19. WESTMACOTT, Richard, R.A., F.R.S., Sculptor; in London.	73
	21. LESCARNE, French Sculptor; at Paris	
	22. WESTERTON, Charles, Publisher, and prosecutor in the ritual case of Westerton v. Liddell; at Knightsbridge	59
	25. FESSLER, Dr., Bishop of St. Pölten, and Secretary of the late Vatican Council	
	29. GAMBIER, General, C.B., R.A., severely wounded at Sebastopol; at Gloucester	59

			Age.
April	30.	MAYHEW, Horace, Author, one of the earliest contributors to 'Punch'; at Kensington	52
May	1.	GLADSTONE, Robert, Merchant of Manchester; in London.	61
	–.	SAVAGE, M. W., formerly editor of the 'Examiner,' and author of several novels; at Torquay	
	3.	POPHAM, C. W., formerly High Sheriff of Cornwall; at Trevarno	69
	6.	GRAY, G. R., F.R.S., Ornithologist, Assistant Keeper in Zool. Dep. of British Museum; at Haverstock Hill	64
	7.	WILLIAMS, Humphrey, formerly M.P. for Truro; in London	82
	9.	PENNEFATHER, General Sir John L., Governor of Chelsea Hospital; at Chelsea	74
	11.	READ, T. B., American Painter and Poet; at New York	50
	18.	HARTMANN, Herr, Poet and Journalist; at Vienna	50
	19.	KEMPLAY, Christopher, for many years proprietor of the 'Leeds Intelligencer'; at Leeds	68
	21.	DOULTON, F., M.P. for Lambeth, 1862 to 1868; at Kensington	49
	22.	DALLING and BULWER, Rt. Hon. Lord, G.C.B., Diplomatist and Author; at Naples	67
	23.	BOUVERIE, Hon. Philip Pleydell, M.P. for Berks, 1857 to 1865; at Devizes	83
	24.	OWEN, Rev. J. B., M.A., F.S.A., at Chelsea	
	26.	FORRESTER, Alfred Henry, better known as Alfred Crowquill; at Clapham Road	67
	28.	SOPHIA, Archduchess of Austria, mother of the Emperor	
	31.	SMITH, Catterson, Painter, President of the Royal Hibernium Academy; at Dublin	65
June	1.	LEVER, Charles, Novelist; at Trieste	63
	2.	BENNETT, James Gordon, Editor and proprietor of the 'New York Herald'; at New York.	72
	–.	DUX, Count Hegnenberg, President of Bavarian Ministry	
	4.	VAILLANT, Marshal, French General, present at Waterloo; at Paris	82
	7.	HILL, Matt. Davenport, Q.C., M.P. for Hull in first Reformed Parliament, Recorder of Birmingham; at Stapleton	80
	9.	ELLIS, Rev. William, an eminent Missionary in the South Sea Islands and at Madagascar; at Hoddesdon, Herts	77
	11.	JEREMIE, James A., D.D., Dean of Lincoln, Author; at Lincoln	71
	15.	DU VAL, Artist; at Manchester	64
	16.	MACLEOD, Rev. Norman, D.D., Chaplain to the Queen in Scotland, editor of 'Good Words'; at Glasgow	60
	—.	SYKES, Colonel W. H., F.R.S., M.P. for Aberdeenshire, Chairman of the East India Company; at Albion Street	83
	21.	FOREY, Marshal, French General; at Paris.	68
	24.	SANGSTER, Samuel, Line Engraver;	68
July	2.	HILFERDING, Alex. F. M., Sclavonic Scholar; at Kargopol	42
	8.	BAGSTER, Jonathan, Publisher, Originator of the 'Polyglot Bible;' at Pinner	59
	9.	FELIX, Raphael, director of French Plays in London; at Norwood	46
	10.	BROOK, Charles, County Magistrate for Yorkshire, and an eminent Philanthropist; at Enderby Hall	59
	13.	FULLOM, S. W., formerly editor of the 'United Service Magazine; at Liverpool	
	—.	FILIPOWSKI, Herschel, F.R.S.; at Brixton	53
	—.	TURNER, William, D.D., R. C. Bishop; at Manchester	73
	18.	JUAREZ, Don Benito, President of Mexico	65

		Age.
July	21. GUÉROULT, Adolphe, Founder and director of the 'Opinion Nationale;' at Vichy	62
	—. TIDEY, Henry, Water Colour Painter; at Percy Street	57
	22. HUGHES, Baron, Judge of the Irish Court of Exchequer, and twice Solicitor-General for Ireland; at Dublin	
	24. FRANCOIS, DUC DE GUISE, last surviving child of Henry d'Orleans (Duc d'Aumale), grandson of Louis Philippe; at Paris	17
	25. DUFOUR, Selim François, French Journalist and Musical Critic; at Paris	72
	26. CARAFA, Michael H., Composer and Professor; at Paris	86
	30. SMITH, Augustus, Lord and proprietor of the Scilly Isles, formerly M.P. for Truro; at Plymouth	68
Aug.	3. EVANS, Capt. W. D., P. and O. Service, well known in chess circles as author of the 'Evans Gambit;' at Ostend	82
	4. CALDICOTT, John, editor of 'Aris's Birmingham Gazette;' at Bristol	73
	6. DELAUNAY, M., Director of the Paris Observatory, drowned at Cherbourg	
	8. GREENE, Thomas, M.P. for Lancaster, 1824–57; Chairman of Committees 1841–46; at Whittington Hall	78
	11. SMITH, Sir Alexander, K.C.B., M.D., F.R.S., formerly Dir.-Gen. of Army Med. Dep.; at Alexander Square	74
	18. MITCHELL, Captain T. H., Governor of Manchester County Gaol; at the age of 16 he enlisted as a private in the Guards, and 'rose from the ranks,' retiring as Captain in 1848; at Manchester	71
	23. HALE, W. S., Alderman of London, a chief agent in the reconstitution of the City of London School; at Hampstead	81
	25. BERNARD, Robert, M.D., Deputy Inspector-General of Hospitals and Fleets; at Spa, Belgium	
	26. FOSTER, General T., served during Rebellion in Canada in 1837–8; in London	76
	—. WALLINGTON, Colonel J. C., served in Peninsular War	83
Sept.	1. GRAY, Right Rev. Bishop, Robert, D.D.; at Capetown	63
	3. WELFORD, Richard G., County Court Judge; at Allesley	68
	7. BROUGH, John Cargill, F.C.S., Librarian of London Institution; at Esher	38
	8. DARDENNE, Arthur, the last survivor of the men who stormed the Bastille; at Saint Louis	96
	–. BISSET, Rev James, D.D., late Moderator of the General Assembly of the Church of Scotland; at Bourtie, N.B.	78
	13. FEUERBACH, Ludwig, German Philosopher; at Rechenberg, near Nuremberg	68
	—. WALKER, Sir W. H., Senior Professional Member of the Marine and Harbour Department of the Board of Trade, formerly of H.E.I.C.S; at Glo'ster Terrace, Hyde Park	72
	—. SOADY, Lt.-Col. Frs. Jas., Inspector of Auxiliary Forces, author of 'Lessons of War,' &c.; at Weston-Super-Mare	45
	15. ANDERSON, Rev. W., D.D., Minister of Scotch Church from 1820; at Uddingstone, near Glasgow	73
	23. HOHENLOWE-LANGENBURG, Dowager Princess of, Half-Sister of Queen Victoria; at Baden-Baden	65
	25. MERRYWEATHER, Moses, head of the oldest Fire Engine Manufactory in London; at Clapham	80
	30. BAINBRIDGE, Edward Thomas, Banker, for twelve years M.P. for Taunton; at Brighton	74
Oct.	1. COFFIN, Lieut.-Gen. Sir Isaac, K.C.S., a distinguished Indian Officer; at Blackheath	71

		Age
Oct.	2. WILLES, Rt. Hon. Sir J. S., Puisne Judge of the Common Pleas; committed suicide, "not being at the time of sound mind;" at Otterspool, Watford	58
	3. GOSS, Right Rev. Alexander, R. C. Bishop; at Liverpool	58
	5. MONTGOMERIE, Gen. Sir P., K.C.B., R.A.; at Queen's Gate	80
	6. POLLOCK, Field Marshal Sir George, G.C.B., G.C.S.I., Constable of the Tower; at Walmer	86
	7. WYLLIE, Lieut.-Col. Robert, late H.E.I.C.S., and Military Sec. to Government of India; at Sandgate	65
	10. SEWARD, Wm. H., American Statesman; at Auburn, U.S.A.	71
	—. PARTON, Mrs. S. P. W., American Authoress, better known as "Fanny Fern;" at New York	61
	13. BAXTER, Sir David, Bart., Merchant of Dundee; at Cupar, N.B.	78
	13. MURRAY, Andrew, C.B., late Consulting Engineer to the Admiralty; at Richmond	59
	14. FONBLANQUE, Albany W., head of the Statistical Department of the Board of Trade; in London	75
	—. ALBERT, Prince, sen. (of Prussia); at Berlin	63
	18 BRUCE-PRYCE, John, formerly High Sheriff of Glamorganshire, father of the Home Secretary; at St. Nicholas	88
	—. PURCHAS, Rev. John, M.A., Incumbent of St, James's Chapel, and defendant in the Brighton Ritual Case; at Brighton	49
	19. COCHRANE, Sir T. J., G.C.B., Admiral of the Fleet; at Ryde	83
	—. D'AUBIGNÉ, Jean Henri Merle, the 'Historian of the Reformation'; at Geneva	78
	—. BABINET, M., Mathematician; at Paris.	79
	22. GAUTIER, Theophile, Poet and Critic; at Paris	61
	—. MASON, George, A.R.A., Painter; in London	54
	23. MOZLEY, John, Publisher; at Derby	67
	26. DUNDAS, Frederick, M.P. for Orkney and Shetland; at Hanover Square	70
	27. GORDON, Sir A. C. Duff, Commr. of Inland Revenue; at Upper Eccleston Street	61
	29. WRIXON-BECHER Lady, formerly Miss O'Neill, a celebrated actress; at Ballygiblin, Ireland	80
	30. ELLIOTT, Sir Dan., K.C.S.I., late Madras Civil Service; at Brompton	74
	—. KINLOCH, Lord, Judge of the Court of Session; at Hartrigge, N.B.	
	30. COMBE, Thomas, M.A., University Printer; at the Clarendon Press, Oxford	76
Nov.	1. MAGUIRE, John Francis, M.P. for Cork, Proprietor and Editor of the *Cork Examiner*; at Dublin	57
	4. KEIGHTLEY, Thomas, author of Historical and Mythological Works; at Belvedere	84
	6. MEADE, George, Major-General in U.S. Army, Commander-in-chief of the Army of the Potomac from 1863 to close of Civil War; at New York	56

NOTE.—The Necrological Table here given, contains the names of 199 distinguished persons of all countries, who died during the twelve months from the commencement of November, 1871, to the commencement of November, 1872. Of this number, no less than forty-six, or nearly 25 per cent., died at the age of 80 or more, while two were upwards of 90.

INDEX

TO

'THE BRITISH ALMANAC' & 'COMPANION TO THE ALMANAC.'

(The figures in parentheses refer to the pages of the 'BRITISH ALMANAC,' *and those not so marked to the separately numbered pages of the* 'COMPANION TO THE ALMANAC.')

PAGE

Abstracts of Acts of Parliament. 217–246
" Parliamentary and other Official Documents 247–275
Academies and Learned Societies, by W. E. A. Axon, M.R.S.L., F.S.S. 81–101
Agriculture, statistics of . . . 257–261
Ambassadors, foreign, in England . (93)
Architecture and Public Improvements, by James Thorne, F.S.A. 149–186
Army agents . . . . . (71)
Army, general officers of, British . (68)
" " " Indian . (70)
Army & Navy, Statutes relating to . 217
Art Workmanship at the International Exhibition of 1872, and the Walter Press, by Arthur Locker 114–133
Assessed Taxes and Licences, tables of (84)
Bank of England, Directors of . . (81)
" " transfer days at . (13)
Banks and Bankers in London . . (81)
Bishops of Church of England . . (57)
" " Ireland . . . (57)
" " Scotland . . (57)
" " in Colonies . . (58)
Calendar for 1872 . . . . . (14)
Cambridge University . . . . . (59)
Capital and Labour in 1872, by John Plummer 134–148
Charities, Metropolitan, by Charles Mackeson, F.S.S. 187–206
Cheap Literature—Past and Present, by Jno. Pownall Harrison . . . 60–81
Chronicle of Events and Occurrences, 1871–72 276–281
Church and Education, Statutes regarding 217–220
Circuits of the Judges . . . . . (77)
Coinage at Home and Abroad, by John Crowdy 102–113
Colonial Governors . . . . . (92)
Commons, House of . . . . . (45)
Commerce and Navigation, Statistics of 251–256
Corporation of London . . . . . (77)
Correspondence of Eras with 1873 . (3)
County Courts in England and Wales (73)
Courts of Law in England . . . . (73)
Crime and Pauperism, Statutes regarding 220–221
" " Statistics of 264–268
Currency, Statistics of 251
Dublin University . . . . . (66)
Durham University . . . . . (61)
Eclipses in 1873 . . . . . (11)
Education, Statistics of 268–270
Emigration, Statistics of 272–273
Exhibitions in and near London . . (95)
Finance and Taxation, Statutes relating to 222–223
" " Statistics of 247–251
High Water at the London Docks . (6)
" Out ports . . . (5)
Holidays at Public Offices . . . (13)
House of Commons . . . . . (45)
" Lords . . . . . (40)

PAGE

Inns of Court . . . . . (76)
Insurance Companies . . . . . (83)
International Exhibition of 1872, Art Workmanship at, by Arthur Locker 114–133
Irish Bishops . . . . . (57)
Irish Lords Lieutenant . . . . . (53)
" Universities . . . . . (66)
Law and Justice, Statutes relating to 224–233
Learned Societies and Academies, by W. E. A. Axon, M.R.S.L., F.S.S. 81–101
Legislation of 1872 207–216
Licences and Assessed Taxes . . . (84)
Lighthouse System of the British Islands, The, by George Dodd . 33–59
Literature (Cheap), Past and Present, by John Pownall Harrison . . 60–81
Local Government, Statutes relating to 238–246
London, Corporation of . . . . . (77)
" School Board . . . . . (88)
" University . . . . . (60)
Lords Lieutenant, England and Wales (52)
" Ireland . . . . (53)
" Scotland . . . . (52)
Metropolitan Charities at the Present Day, by Charles Mackeson, F.S.S. 187–206
Ministry, The . . . . . (39)
Miscellaneous Statistics 275
Moonlight, Table of Duration of . . (10)
Navy, Flag Officers . . . . . (71)
" Agents . . . . . (72)
Necrological Table (1871–72) . . 282–287
Notes for the Year . . . . . (11)
Occultation of Stars . . . . . (8)
Oxford University . . . . . (58)
Parliamentary Procedure, Statutes relating to 224–233
Pauperism, Statutes relating to . 220–221
" Statistics of 264–268
Peers, House of . . . . . (40)
Population, Statistics of 261–264
Post Office, Statistics of 273–275
" " Information relating to . (87)
Privy Council, Members of . . . . (56)
Quarter Sessions in 1873 . . . . . (12)
Royal Family, Members of, ... (38)
" Households . . . . . (38)
Scotland, Established Church of, . . (58)
" Episcopal " " . . (57)
" Lords Lieutenant and Sheriffs of . . . . . (52)
" Universities and Colleges . (65)
Social Economy, Statistics of . . 271–272
Sovereigns and Governors of Countries (92)
Sun, The, & Recent Solar Discoveries, by R. A. Proctor, B.A., F.R.A.S. . 5–32
Sun, Table of Rising and Setting . . (2)
Terms and Returns in 1873 . . . . (13)
Trade and Agriculture, Statistics of, 257–261
" Shipping, Statutes relating to, 234–238
Transfer days at Bank . . . . . (13)
Wales, University of . . . . . (62)
Walter Press, The, by Arthur Locker, 132–133

BRITISH MUSEUM 12DE72

BEAUTIFUL HAIR

CAN ONLY BE OBTAINED BY THE USE OF

ROWLAND'S MACASSAR OIL,

Which an unparalleled success of SEVENTY YEARS has proved to be the best and safest HAIR RESTORER in use, being perfectly free from all lead and other mineral or poisonous admixtures. It is especially recommended to CHILDREN, as it forms the basis of a BEAUTIFUL HEAD OF HAIR. Price 3s. 6d., 7s., 10s. 6d. (equal to four small), and 21s. per bottle.

PURITY OF COMPLEXION,

And a softness and delicacy of the hands and arms, are realised by the use of

ROWLAND'S KALYDOR,

Which eradicates *Freckles*, *Tan*, *Pimples*, and all other *Cutaneous Visitations*. During the heat of Summer, and the frost and bleak winds of Winter, in cases of Sunburns and Stings of Insects, its virtues are universally acknowledged. Price 4s. 6d. and 8s. 6d. per bottle.

WHITE AND SOUND TEETH,

Healthy Gums and Fragrant Breath are realised by the use of

ROWLAND'S ODONTO,

The success of which during the last Seventy Years has proved it to be the best DENTIFRICE in use, being perfectly free from all deleterious acid compounds, which give a temporary whiteness to the Teeth, but ultimately ruins the enamel. Price 2s. 9d. per box. Ask for ROWLAND'S ARTICLES.

IMPORTANT CAUTION.

The high and universal reputation of these articles induces some Shopkeepers to give the same names to cheap preparations of their own. It is highly necessary on purchasing to see that the word "ROWLAND'S" is on the Wrapper of each, and their Signature in Red Ink, "A. ROWLAND & SONS," as all others are spurious imitations.

Sold by all Chemists and Perfumers everywhere.

b

ATLAS
FIRE AND LIFE ASSURANCE OFFICE,

92, CHEAPSIDE, LONDON.

Established 1808,

And Empowered by Act of Parliament of the 54th Geo. III. c. 79.

Capital, £1,200,000.

DIRECTORS.

Chairman.—THOMAS CHAPMAN, Esq., F.R.S.

Deputy-Chairman.—BENJAMIN BUCK GREENE, Esq.

SIR WILLIAM J. W. BAYNES, Bart.	JOHN GEORGE MACLEAN, Esq.
ARTHUR EDWARD CAMPBELL, Esq.	VICE-ADMIRAL MONTGOMERY.
JAMES PATTISON CURRIE, Esq.	JAMES PHILLIPS, Esq., F.G.S.
JOSEPH GROTE, Esq.	RICHARD REMNEY WARRE, Esq.
JOHN OLIVER HANSON, Esq.	PHILIP ATSHURST WARREN, Esq.

Auditors.—CHARLES GASSIOT, Esq., and CHARLES ANDREW PRESCOTT, Esq.

Secretary.—RICHARD RAY, Esq.

Actuary.—WILLIAM HENRY TYNDALL, Esq. *Solicitor.*—THOMAS BROWNING, Esq.

Consulting Actuary.—CHARLES ANSELL, Esq., F.R.S.

Medical Officer.—WILLIAM COULSON, Esq., F.S.A.

Bankers.—Messrs. PRESCOTT, GROTE, CAVE and CAVE.

This Office has been established more than 64 years, and its present magnitude and prosperity prove the soundness of the principles on which it has been conducted.

Life Department.

The Accumulated Premiums are over £1,550,000. The Annual Income exceeds £160,000.

The sum of £5,458,829 has been paid in claims under Life Policies.

Large Bonuses have been declared and paid as additions to the amounts assured.

Premiums on Policies have been greatly reduced where parties have so applied the Bonuses on their Policies.

Persons Assuring in Great Britain have the option of *Participating* Rates of Premium, or of *Non-Participating* Rates.

Combined provision may be made for old age and early death, so that a person may secure a sum to be paid *to himself* at an age agreed upon, or to his executors if he should die before that age.

Residence in Countries beyond the limits of Europe is allowed on favourable terms; in most temperate climates without extra Premium, beyond a moderate charge for the voyage only. *Whole world* Assurances are granted.

Notices of the Assignment of Life Policies are received and acknowledged.

Advances are made on Policies to the extent of their value.

Persons desiring to surrender their Assurances may receive their value in money, or in lieu thereof, may obtain a new Policy *without further payment of Premium.*

The Directors are ready to receive proposals for Assurances or any contingency involving payment of a sum at death.

Fire Department.

This Company undertakes the Assurance of almost every species of Property in the United Kingdom, at Rates of Premium and upon principles which will be found quite as advantageous to the interests of the Assured as those offered by any other Office. The Directors can confidently refer to the well-known character of the Company for liberality and promptitude in the discharge of claims made upon it during the many years it has been established. *No charge made for Policy Stamps.*

Renewals should be paid within fifteen days after the respective Quarter-days when they become due.

Losses occasioned by *Lightning* will be paid. The *Policies* of the *Company* extend to cover *Losses* occasioned by the *Explosion of Gas.*

The Company is ready to receive applications for agencies in those Towns and Districts in which it is not at present represented. Application to be made to the Secretary.

N.B.—ABOLITION OF THE GOVERNMENT DUTY.—*From and after Midsummer*, 1869, *all Fire Assurances are exempt from the payment of Government Duty.*

Tables of Rates, Forms of Proposal, and any information needful to effect Life or Fire Assurances, may be obtained on application to the Office, No. 92, Cheapside, London, or to any of the Company's Agents.

RICHARD RAY, *Secretary.*

THE

Clergy Mutual Assurance Society.

ESTABLISHED IN 1829.

OFFICE, 2, BROAD SANCTUARY, WESTMINSTER.

Patrons.

HIS GRACE THE ARCHBISHOP OF CANTERBURY.
HIS GRACE THE ARCHBISHOP OF YORK.

President.

THE RIGHT HON. AND RIGHT REV. THE LORD BISHOP OF LONDON.

Vice-President.

CHARLES SUMNER, ESQ., M.A.

Trustees.

HIS GRACE THE ARCHBISHOP OF CANTERBURY.
HIS GRACE THE ARCHBISHOP OF DUBLIN.
BISHOP SUMNER. THE ARCHDEACON OF MAIDSTONE.

Treasurers.

EDMUND COULTHURST, ESQ. THE ARCHDEACON OF WESTMINSTER.

Directors.

CHAIRMAN.—THE ARCHDEACON OF WESTMINSTER.
DEPUTY-CHAIRMAN.—ROBERT FEW, ESQ.

CHARLES JOHN BAKER, ESQ.
THE ARCHDEACON OF BATH.
REV. CANON BLOMFIELD, M.A.
THE DEAN OF BRISTOL.
REV. J. L. CAMERON, M.A.
REV. ARTHUR P. PUREY-CUST, M.A.
REV. C. B. DALTON, M.A.
REV. W. H. DICKINSON, M.A.
THE HON. EDWARD DOUGLAS.
REV. J. D. GLENNIE, M.A.
CHRISTOPHER HODGSON, ESQ., M.A.
REV. WM. GILSON HUMPHRY, B.D.
REV. CANON LONSDALE, M.A.
THE ARCHDEACON OF MAIDSTONE.
THE DEAN OF MANCHESTER.
REV. CHARLES MARSHALL, M.A.
REV. CANON MILLER, D.D.
REV. J. M. BURN MURDOCK.
REV. CANON NEPEAN, M.A.
THE BISHOP SUFFRAGAN OF NOTTINGHAM.
WILLIAM RIVINGTON, ESQ.
GEORGE A. SPOTTISWOODE, ESQ.
W. H. STONE, ESQ., M.D.
REV. CANON STONE, M.A.
REV. WILLIAM WEBSTER.
REV. S. C. WILKS, M.A.
REV. DAVID WILLIAMS, M.A.
F. L. WOLLASTON, ESQ., M.A.

Counsel.—THOMAS BOURDILLON, ESQ., M.A., Stone Buildings, Lincoln's Inn.
Solicitors.—MESSRS. LEE and BOLTON, No. 2, Broad Sanctuary, Westminster.
Auditors.—CHARLES BARBER, ESQ. GEORGE J. BIDDULPH, ESQ. ROBERT J. LODGE, ESQ. REV. ALEXANDER WILSON, M.A.
Bankers.—MESSRS. COUTTS and CO. *Consulting Actuary.*—SAMUEL BROWN, ESQ.
Physician.—DR. STONE, 13, Vigo Street, W.
Actuary.—STEWART HELDER, ESQ. *Secretary.*—MATTHEW HODGSON, ESQ.

The Clergy and all others qualified to make Assurances upon Life in this Society are informed that Assurances upon Life may be made upon payment of Reduced Annual Premiums, viz., upon payment of "four-fifths" of the rates chargeable according to the Society's Table, *subject to certain conditions*. A Prospectus setting forth the table of reduced rates, and the special conditions referred to, may be had by application at the Office.

Bonus.—The whole available Bonus is the sole property of Life Assurers; no part whatever is taken from it to be shared amongst Proprietors. At the end of every fifth year, profits are equitably apportioned amongst existing Life Assurances. By means of Bonus 585 of the earlier Life Assurances have been relieved altogether from the payment of Annual Premiums, and additions in almost every case have been made to the sums Assured; £280,000 was divided amongst Life Assurances in May, 1871.

Assurers have the privilege at the time of making an Assurance of selecting the mode in which the Bonus, whenever due, shall be applied, *i.e.*, either in an immediate Cash payment, or to the reduction of the Annual Premium, or to the increase of the Capital sum assured.

Next Bonus in 1876. Assurances made previously to such year will share therein.

ASSURANCES may be effected on LIVES, SURVIVORSHIPS, &c., &c., as stated in the Society's Prospectus, to any amount not exceeding £7,500.

This Society is strictly confined to the Clergy of the Church of England and of the Episcopal Church of Scotland, their Wives and Families, and the near relations of themselves and Wives.

Prospectuses, Bonus Accounts, &c., to be had at the Office, on personal application, or by letter.

Also, "NOTES UPON LIFE ASSURANCE," by the late Rev. JOHN HODGSON, M.A., Secretary.

2, *Broad Sanctuary, Westminster.*

Eagle Insurance Company

(ESTABLISHED 1807,)

FOR LIVES ONLY,

79, PALL MALL, LONDON, S.W.

DIRECTORS.

JAMES MURRAY, Esq., C.B., F.R.G.S., *Chairman.*
CHARLES BISCHOFF, Esq., *Deputy-Chairman.*

THOMAS BODDINGTON, Esq.
CHARLES CHATFIELD, Esq.
Sir J. BULLER EAST, Bart., D.C.L.
ROBERT ALEX. GRAY, Esq.
W. AUGUSTUS GUY, M.D., F.R.S.
CHARLES JELLICOE, Esq.
RALPH LUDLOW LOPES, Esq.
PHILIP ROSE, Esq.
GEORGE RUSSELL, Esq.
Admiral TINDAL.

AUDITORS.

HENRY ROSE, Esq. | WM. R. BARKER, Esq.

MEDICAL OFFICERS.

JOHN W. OGLE, M.D. | WILLIAM CHOLMELEY, M.D.

ACTUARY AND SECRETARY.

GEORGE HUMPHREYS, Esq., M.A.

Extract from the Report, dated 9th August, 1872, for the year ending 30th June last, being the Thirteenth Quinquennium, and Sixty-fifth of the Company's existence :—

Income from Premiums	£346,279
Do. Interest	139,049
Claims on Deceased Lives, with additions thereto	307,314
Expense of Management .... Being 2·95 per cent. on the income of the Company.	14,336
Realised Assets	3,199,699
Life Assurance and Annuity Funds	£2,937,599
Net Liability under Assurance and Annuity transactions	2,749,223
Surplus	£188,376

Out of this surplus, the sum of £184,654 was allotted for distribution, leaving £3,722 to be carried to the next account.

The number of existing Policies is nearly Eighteen Thousand.

The total Amount assured is £11,869,543, of which £1,897,900 is re-assured.

The Divisions of Surplus are quinquennial, and the whole Surplus (less twenty per cent. only) is distributed amongst the participating Policy-holders.

The Annual Reports of the Company's state and progress, Prospectuses and Forms, may be had, or will be sent, post free, on application at the Office, or to any of the Company's Agents.

THE ECONOMIC LIFE ASSURANCE SOCIETY.

TEMPORARY OFFICES, DURING REBUILDING OF

No. 6, NEW BRIDGE STREET,

No. 38, NEW BRIDGE STREET, BLACKFRIARS, LONDON, E.C.

ESTABLISHED 1823.

Empowered by Act of Parliament, 3 William IV.

DIRECTORS.

HENRY BARNETT, Esq., M.P., *Chairman.*

The Rt. Hon. E. PLEYDELL BOUVERIE, M.P., *Deputy-Chairman.*

CHARLES ARTHUR BARCLAY, Esq.
MICHAEL BIDDULPH, Esq., M.P.
EDWARD CHARRINGTON, Esq.
SIR ALEXANDER DUFF-GORDON, Bt.
JOHN HARMAN, Esq.
CHARLES MORRIS, Esq.
C. H. W. ACOURT REPINGTON, Esq.
GEORGE KETTILBY RICKARDS, Esq.
HENRY ROBERTS, Esq.
AUGUSTUS K. STEPHENSON, Esq.

AUDITORS.

ALFRED BUCKLEY, Esq.
JOHN HOWELL, Esq.
JOHN GILLIAM STILWELL, Esq.
RICHARD TAYLOR, Esq.

Physician.—WM. R. BASHAM, M.D., 17, Chester Street, Belgrave Square.
Surgeon.—GEO. D. POLLOCK, Esq., F.R.C.S., 36, Grosvenor Street, W.
Solicitor.—CHARLES WARING YOUNG, Esq., 12, Essex Street, Strand.
Secretary.—JOHN RALPH GRIMES, Esq.
Actuary.—RICHARD CHARLES FISHER, Esq.

ADVANTAGES OFFERED BY THE SOCIETY:—

The **lowest** rates of Premium on the **Mutual System,** with early participation in Profits.

Table of Annual Premiums required for an Assurance of £100 for the whole Term of Life, with Participation in Profits.

	£	s.	d.		£	s.	d.
20	1	14	7	35	2	10	11
25	1	19	0	40	2	19	9
30	2	4	3	45	3	11	9

Security.—Invested Assets, upwards of **£2,800,500**
Annual Income, upwards of **348,800**

Bonus.—The Society being on the **mutual** principle, the Assured share the **whole of the Profits.**

Assurances granted to the extent of **£10,000** on a single life.

Prospectuses and full particulars may be obtained on application to

JOHN RALPH GRIMES, *Secretary.*

EQUITABLE ASSURANCE OFFICE.

ESTABLISHED IN 1762.

MANSION HOUSE STREET (OPPOSITE THE MANSION HOUSE, LONDON).

The Oldest Life Office on the Mutual Principle in existence.

DIRECTORS.

RIGHT HON. LORD TREDEGAR, *President.*
SIR FREDERICK POLLOCK, BART., *Vice-President.*
JAMES SPICER, ESQ., *Vice-President.*

FREDERICK COWPER, ESQ.	JOHN ALLDIN MOORE, ESQ.
WILLIAM CURREY, ESQ.	GEORGE SCOVELL, ESQ.
SAMUEL EDWARDS, ESQ.	JOHN CHARLES TEMPLER, ESQ.
WILLIAM EDWARDS, ESQ.	RICHARD TWINING, ESQ.
GEORGE FENNING, ESQ.	JOHN WALTER, ESQ., M.P.
SIR WALTER CHAS. JAMES, BART.	GEORGE FREDERICK WHITE, ESQ.

EX-DIRECTORS.

JOHN CHARLES BURGOYNE, ESQ.	JOHN HARVEY, ESQ.
LORD GEORGE CAVENDISH, M.P.	JOHN COYSGARNE SIM, ESQ.

JOHN KEMP WELCH, ESQ.

Attention is particularly requested to the following important facts resulting from the principles on which the Society was founded in the year 1762, and upon which it has ever since been conducted:—

1. It has never allowed Commission or employed Agents under any circumstances, whereby more than Two Millions Sterling have been saved to the Assured.

2. Being a purely Mutual Office, the whole of the Capital and Profits belong exclusively to the Assured, *no portion being diverted for dividends to Shareholders.*

3. The invested Capital is upwards of **£4,000,000.**

4. The whole expenses of management are, on an average, only about 2¼ per cent. on the Annual Income.

5. The Society accept the surrender of its policies at their true value, without any deduction, thereby rendering loss by forfeiture totally unnecessary.

6. The lives of persons residing at a distance from London are assured without requiring their personal attendance at the Office. Assurances can thus be effected without expense, or the intervention of Agents, by direct correspondence with the Office in London.

J. W. STEPHENSON, *Actuary.*

Equity & Law Life Assurance Society,

18, LINCOLN'S INN FIELDS, LONDON, W.C.

CAPITAL £1,000,000, IN 10,000 SHARES OF £100 EACH,

Fully Subscribed by upwards of 200 Members of the Legal Profession, a list of whom may be obtained upon application.

TRUSTEES.

THE RIGHT HON. EDWD. CARDWELL, M.P.
THE RIGHT HON. SIR WILLIAM ERLE.
THE RIGHT HON., SIR JOHN TAYLOR COLERIDGE.
THE HON. THE VICE-CHANCELLOR SIR RICHARD MALINS.
THOMAS GLOVER KENSIT, Esq.
JOHN MOXON CLABON, Esq.
ROBERT JOHN PORCHER BROUGHTON, Esq.

DIRECTORS.

GEORGE LAKE RUSSELL, Esq., *Chairman.*
JOHN MOXON CLABON, Esq., *Deputy Chairman.*

HENRY WILLIAM BIRCH, Esq.
HENRY FOX BRISTOWE, Esq., Q.C.
ROBERT J. B. BROUGHTON, Esq.
THE HON. MR. BARON CLEASBY.
THE HON. GEORGE DENMAN, Q.C., M.P.
CHARLES J. DIMOND, Esq.
SIMON DUNNING, Esq.
WILLIAM H. DUNSTER, Esq.
WM. EDWARD HILLIARD, Esq.
N. HOLLINGSWORTH, Esq.
THOMAS HUGHES, Esq., Q.C., M.P.
JOHN ILIFFE, Esq.
T. GLOVER KENSIT, Esq.
EDMUND F. MOORE, Esq., Q.C.
W. BENFORD NELSON, Esq.
FREDERICK PEAKE, Esq.
THE RIGHT HON. SIR R. J. PHILLIMORE.
W. B. S. RACKHAM, Esq.
GEORGE ROBINS, Esq.
A. H. SHADWELL, Esq.
HORACE W. SMITH, Esq., M.A.
RICHARD SMITH, Esq.

AUDITORS.

Elected by the Proprietors—JOHN BOODLE, Esq.
Elected by the Assured—JOHN C. TEMPLER, Esq., ARTHUR H. BAILEY, Esq.
Solicitor.—GEORGE ROOPER, Esq., 26, Lincoln's Inn Fields.
Medical Officer.—R. P. COTTON, M.D., 46, Clarges Street, Piccadilly, W.
Actuary and Secretary.—THOMAS BOND SPRAGUE, Esq., M.A.

The NEW BUSINESS of 1871 comprised insurances for £343,500; and the Premiums received thereon amounted to £12,702 14*s.* 3*d.*

The Total INCOME of 1871 was £140,911, and the available ASSETS at the end of the year were £875,785.

The realized PROFITS are ascertained every Five Years; and NINE-TENTHS of the whole are divided among the Assured. As considerably more than one-tenth of the Profits is derived from Policies which do not participate in the Profits, it will be seen that *the Assured have greater advantages in this Society than if they formed a Mutual Insurance Company*, dividing among themselves the whole of the Profits derived from their own Policies.

At the Fifth Quinquennial Division of Profits to 31st December, 1869, the additions to the sums assured averaged no less than Seventy per cent. on the Premiums received during the Five Years on the Policies which participate.

The PREMIUMS are calculated for every half-year of age.

The Conditions of the Policies allow persons whose lives are insured to reside or travel in any part of the world distant more than 33° from the Equator.

Policies in the hands of third parties are not vitiated by suicide, or by the life assured transgressing the stipulated limits.

PRINTED FORMS of notice of assignment furnished when desired.

The Business of the Society includes the PURCHASE and the Granting of LOANS upon the security of LIFE INTERESTS and REVERSIONS; also the Granting of IMMEDIATE ANNUITIES.

The usual commission allowed to Solicitors on all policies introduced by them.

The ANNUAL REPORTS of the Directors are regularly printed, with full accounts of the Receipts and Expenditure, and may be obtained by written or personal application at the Office.

HAND-IN-HAND

FIRE AND LIFE INSURANCE SOCIETY,

1, NEW BRIDGE ST., BLACKFRIARS, LONDON, E.C.

Instituted in 1696.—*Extended to Life Insurance*, 1836.

DIRECTORS.

The Hon. WILLIAM ASHLEY.
T. PALMER CHAPMAN, Esq.
Gen. the Hon. Sir EDWARD CUST.
JOHN LETTSOM ELLIOT, Esq.
JOHN GURNEY HOARE, Esq.
ANDREW JOHNSTON, Esq., M.P.
FREDERICK LOCKER, Esq.
T. FULLER MAITLAND, Esq.
JOHN SPERLING, Esq.
THOMAS TURNER, Esq.
F. MAITLAND WILSON, Esq.
W. ESDAILE WINTER, Esq.

AUDITORS.

Colonel the Hon. P. F. CUST. JOHN LETTSOM ELLIOT, Esq.
JAMES SYDNEY STOPFORD, Esq.

Bankers—Messrs. GOSLINGS and SHARPE, 19, Fleet Street.

Physician—THOMAS K. CHAMBERS, M.D., 64, Brook Street, Grosvenor Square.

Solicitors—Messrs. NICHOLL, BURNETT, & NEWMAN, 8, Howard Street, Strand.

Actuary and Secretary—JAMES M. TERRY, Esq.

Assistant Secretary—BENJAMIN BLENKINSOP, Esq.

Assistant Actuary—JAMES TERRY, Esq.

The oldest Insurance Office in existence. Founded and still conducted on the **Mutual System.**

Large Returns made to Members **in each Department.**

The whole of the Profits are divided annually amongst the Members of Five Years' standing and upwards—there being no Shareholders.

The rate of abatement of Premium thereby given for the current year on Life Policies is 60 per cent. for the Old Series, and **50 per cent.** for the New Series.

The rate of return on Septennial Fire Policies (charged at 1*s.* 6*d.* per cent.) **is 66 per cent.**

The Directors are willing to appoint as Agents, persons of good position and character.

31st DECEMBER, 1871.

Claims paid on Life Policies to this date	£932,412.
Amount of Profits returned ditto	700,229.

ASSETS.

Accumulated Fund	£1,392,655.
Present Value of Life Premiums	1,364,179.

LIABILITIES.

Present Value of Sums Insured (£3,447,921 2*s.* 3*d.*) ..	£1,670,342.
Present Value of Life Annuities (£8,291 10*s.* per Ann. and £360 Contingent)	58,598.

The Accounts of the Society may be had on application at the Office.

THE

LONDON LIFE ASSOCIATION,

81, KING WILLIAM STREET, LONDON, E.C.

ESTABLISHED 1806.

President—THE BARON HEATH, F.R.S.
Vice-President—ALFRED HEAD, Esq.

Trustees.

FRANCIS HENRY MITCHELL, Esq. | GEORGE FRED. POLLOCK, Esq.
Sir DAVID SALOMONS, Bart., M.P. | JAMES EWING MATHIESON, Esq.

Directors.

JOHN BAGGALLAY, Esq. | SAMUEL FISHER, Esq.
GORDON WYATT CLARK, Esq. | GABRIEL GOLDNEY, Esq., M.P.
WILLIAM CORRIE, Esq. | HENRY S. KING, Esq.
JOHN COSTEKER, Esq. | JOS. JOHNSON MILES, Esq.
HENRY T. CURTIS, Esq. | ROBERT POTT, Esq.
THOMAS DEVAS, Esq. | S. WILLIAM SILVER, Esq.

Policies now in Force	**£7,700,000**
Fund accumulated and invested in First Class Securities upwards of	**3,100,000**
Policy Claims Paid	**6,000,000**

The Association employs no Agents, and pays no Commission in any shape, for the introduction of Policies.

Its expenses are small, being about 2½ per cent. of its gross income.

An investigation of its affairs is made every year, and the surplus is applied solely to the reduction of the Premiums, such reduction taking place immediately after the first seven payments.

During the last 30 years the reduction has *increased*, on an average, at the rate of about One per cent. per annum, and as the mortality among its Members continues to be much within the estimate, and the funds of the Society are invested at a higher rate of interest than is assumed in the valuations, it is expected that the Premiums may be still further reduced.

Premiums commenced before Jan., 1856 are this year reduced 92½ per cent
" " **July, 1864** " **82½** "
" " **July, 1866** " **67½** "

EDWARD DOCKER, *Secretary.*

b 3

THE

LONDON ASSURANCE CORPORATION,

For Fire, Life, & Marine Assurances.

Incorporated by Royal Charter, A.D. 1720.

Office—No. 7, ROYAL EXCHANGE, LONDON, E.C.

EDWIN GOWER, Esq., GOVERNOR.
DAVID POWELL, Esq., SUB-GOVERNOR.
ROBERT GILLESPIE, Esq., DEPUTY-GOVERNOR.

DIRECTORS.

NATH. ALEXANDER, Esq.	G. B. DEWHURST, Esq.	CHARLES LYALL, Esq.
J. A. ARBUTHNOT, Esq.	BONAMY DOBREE, Esq.	CAPT. R. W. PELLY, R.N.
JAMES BLYTH, Esq.	JOHN ENTWISLE, Esq.	WILLIAM RENNIE, Esq.
HARVEY BRAND, Esq.	GEORGE L. M. GIBBS, Esq.	P. F. ROBERTSON, Esq.
EDWARD BUDD, Esq.	A. C. GUTHRIE, Esq.	ROBERT RYRIE, Esq.
ALFRED D. CHAPMAN, Esq.	JOHN A. HANKEY, Esq.	DAVID P. SELLAR, Esq.
MARK W. COLLET, Esq.	LOUIS HUTH, Esq.	LEWIS A. WALLACE, Esq.
SIR F. CURRIE, Bart.	HENRY J. B. KENDALL, Esq.	WILLIAM B. WATSON, Esq.

Copies of the Corporation's Accounts, in conformity with the provisions of "The Life Assurance Companies' Act, 1870," may be had on application at the Head Office.

The Share Capital of this Corporation is £896,550, of which one-half, or £448,275, has been paid up. The total Funds on the 31st December, 1871, amounted to £2,646,885.

The following particulars relate to the Life Department:—

POLICIES in force for (exclusive of bonus additions)		£4,960,918
Annual Income from—		
PREMIUMS	£162,478	
INTEREST	£63,747	
		226,225
Accumulated Premiums		£1,410,813

Fire Insurances can be effected with the Corporation at moderate rates of Premium.

POLICIES OF MARINE INSURANCE are issued at the HEAD OFFICE, and at CALCUTTA, MADRAS, BOMBAY, MAURITIUS, HONG KONG, and SHANGHAI.

JOHN P. LAURENCE, *Secretary.*

The Liverpool and London and Globe INSURANCE COMPANY.

All Directors must be Proprietors in the Company.

Trustees of Company.

T. Brocklebank, Esq., H. Littledale, Esq., J. A. Tobin, Esq., Liverpool.
H. V. East, Esq., Sir Charles Nicholson, Bart., Wm. Nicol, Esq., London.

Trustees of Globe Million Fund.

Sir John Musgrove, Bart., Sir Wm. Tite, M.P., Swinton Boult, Esq., Wm. Newmarch, Esq., John W. Robins, Esq.

DIRECTORS.

LIVERPOOL BOARD.—OFFICE: No. 1, DALE STREET.

Chairman—Thomas Brocklebank, Esq.

Deputy Chairmen—Har. Littledale, Esq., and Jos. Hubback, Esq.

Swinton Boult, Esq.	Thos. Earle, Esq.	H. H. Nicholson, Esq.
A. Castellain, Esq.	C. I. Forget, Esq.	W. Paton, Esq.
C. T. Bowring, Esq.	H. B. Gilmour, Esq.	Chas. Saunders, Esq.
C. J. Corbally, Esq.	Thomas Haigh, Esq.	James A. Tobin, Esq.
A. P. Fletcher, Esq.	G. H. Loxdale, Esq.	Edward Tootal, Esq.

Resident Secretary—Henry Thomson, Esq.

Auditors—Nathaniel Caine, Esq., and Joseph Heap, Esq.

Medical Referees—J. R. W. Vose, M.D., and E. R. Bickersteth, Esq.

Bankers—Bank of Liverpool; Union Bank of London.

Solicitors—Messrs. Laces, Banner, Newton, Bushby, and Richardson.

LONDON BOARD.—1, CORNHILL, AND CHARING CROSS.

Chairman—Sir John Musgrove, Bart.

William Dent, Esq.	James Morley, Esq.
Henry V. East, Esq.	Sir C. Nicholson, Bart., D.C.L.
R. W. Gaussen, Esq.	W. Nicol, Esq.
Hon. Ashley Carr Glyn.	W. H. C. Plowden, Esq., F.R.S.
W. Macnaughtan, Esq.	G. B. Whatman, Esq.
Ross D. Mangles, Esq.	

Actuary and Resident Secretary—Aug. Hendriks, Esq.

Fire Superintendent—T. Septimus Marks, Esq.

Auditor—H. H. Cannan, Esq.

Medical Referees—J. R. Bennett, Esq., M.D., Alex. Anderson, Esq., F.R.C.S.

Consulting Surgeon—Sir James Paget, Bart., F.R.S.

Bankers—The London and County Bank; Messrs. Glyn, Mills, Currie, and Co.

Solicitors—Messrs. Palmer, Bull, and Fry.

Surveyors—E. N. Clifton, Esq., and Wm. Thompson, Esq.

At the **ANNUAL MEETING**, held February 26th, 1872, the Report of the Directors for the Year 1871 showed that:—

The Fire Premiums were.....£1,131,594	The Annuities Payable..... £60,722
New Life Premiums £22,177, and the total 272,948	The Invested Funds 3,647,783

AUG. HENDRIKS,
Actuary and Resident Secretary.

ESTABLISHED 1840.

CHURCH OF ENGLAND LIFE AND FIRE ASSURANCE INSTITUTION,

9 & 10, KING STREET, CHEAPSIDE, LONDON.

Empowered by Special Act of Parliament.

CAPITAL, ONE MILLION.

Directors.

The Very Rev. the DEAN OF ARMAGH.

The Rev. EDWARD CARR, LL.D.	RICHARD NUGENT, Esq.
WILLIAM EMMENS, Esq.	W. F. SKENE, Esq., W.S., LL.D.
CHARLES HARRISON, Esq.	HERBERT TAYLOR, Esq.
Col. THOMAS E. L. HIGGINSON.	WILLIAM GORDON THOMSON, Esq.
JONATHAN HOPKINSON, Esq.	The Rev. RICHARD WOOD, B.D.

Assurances effected on the lives and property of the general public.

Special allowances from the Proprietors' Fund made to Clergymen and Schoolmasters.

"Free" Policies issued which can never entirely lapse by non-payment of Premiums.

Annuities granted on a new and beneficial principle.

Applications for Prospectuses and Forms of Proposal, and for Agencies, should be addressed to

STEPHEN H. EMMENS, D.C.L.,
Secretary.

General Life & Fire Assurance Company,

62, KING WILLIAM STREET, LONDON, E.C.

ESTABLISHED 1837. CAPITAL—£1,000,000.

DIRECTORS.

T. Challis, Esq., Ald., *Chairman.* Rt. Hon. C. P. Villiers, M.P., *Deputy-Chairman.*

James Abbiss, Esq., J.P.	Andrew Lusk, Esq., Ald., M.P.
William Delf, Esq.	James Pilkington, Esq.
Lt.-Col. Sam. Bolton Edenborough.	Henry William Ripley, Esq.
Michael Hall, Esq.	Edward Steane, D.D.
Charles James Heath, Esq.	Alfred Watkin, Esq.

Secretary—George Scott Freeman, Esq.

Medical Officers. { J. R. Bennett, Esq., M.D., 15, Finsbury Square, London.
P. H. Pye-Smith, 31, Finsbury Square, London.

EXAMPLES OF LAST BONUS.

Amount Assured.	Premiums Paid.	Bonus added to Policy.
£2000	£405 0 0	£126 0 0
1000	80 0 0	40 0 0
1000	42 16 8	26 0 0
500	26 16 8	13 0 0
200	7 19 4	5 0 0

LOAN DEPARTMENT.

Loans from £100 to £1000 advanced on Personal Security, and the Deposit of a Life Policy to be taken out by the Borrower with the Company.

Loans, without any further security, are advanced on Policies which have been four years in force, and have attained the value of £25.

Loans on Mortgage of Freehold and Leasehold Property, Debentures, Share Scrip, Life Interests, and all kinds of valuable security on specially favourable terms.

THE

GENERAL REVERSIONARY & INVESTMENT COMPANY.

Office—No. 5, WHITEHALL, LONDON, S.W.

ESTABLISHED 1836.

Further Empowered by Special Act of Parliament, 14 and 15 Vict., cap. 130.

CAPITAL, £500,000.

DIRECTORS.

Chairman—GEORGE PERCY ELLIOTT, ESQ.
Deputy Chairman—SEYMOUR TEULON, ESQ.

MAYOW WYNELL ADAMS, Esq.
THOMAS ALLEN, Esq.
THOMAS BLACKALL, Esq., M.D.
JOHN CHAVE LUXMOORE, Esq.
Colonel JOSEPH W. JASPER OUSELEY.
EDWARD WALMISLEY, Esq.

Auditors—WM. R. BARKER, Esq., GEO. HUGHES, Esq., and CHAS. H. SAVORY, Esq.
Bankers—Messrs. DRUMMOND.
Solicitor—HARRY SHOUBRIDGE, Esq., 1, Lincoln's Inn Fields, W.C.

The business of this Company consists in the PURCHASE of, or LOANS upon—
REVERSIONARY INTERESTS, vested or contingent, in *Landed* or *Funded Property*, or *Securities*; also
LIFE INTERESTS in *Possession*, as well as in *Expectation*; and
POLICIES of INSURANCE upon LIVES.

Loans upon Reversions may be obtained either at an Annual Interest, or in consideration of deferred charges, payable upon the *Reversions* falling in.

IMMEDIATE ANNUITIES are likewise granted upon the latter principle to persons entitled to Reversionary Interests, who may thus obtain an income until their property falls into possession, without being called upon for any payment until that event.

Prospectuses and Forms of Proposal may be obtained from the Secretary, to whom all communications should be addressed.

By order of the Board of Directors,
WM. BARWICK HODGE, *Actuary and Secretary.*

GOVERNESSES' BENEVOLENT INSTITUTION.

INCORPORATED BY ROYAL CHARTER,

WITH POWER TO HOLD LAND BY GIFT, PURCHASE, OR BEQUEST.

BOARD OF MANAGEMENT.

THE HON. WILLIAM ASHLEY.
PATRICK BLACK, Esq., M.D.
THE REV. ALFRED J. BUSS, B.A.
B. BOND CABBELL, Esq., F.R.S.
ARTHUR RISDON CAPEL, Esq.
JAMES CAPEL, Esq.
F. PATEY CHAPPELL, Esq.
W. TIMBRELL ELLIOTT, Esq.
JOHN WILLIAM HALE, Esq.
EDWARD B. HARTOPP, Esq., M.P.
THE LORD HOUGHTON.
THE HON. ARTHUR KINNAIRD, M.P.
THE REV. CHARLES MACKENZIE, M.A.
SIR ROBERT MONTGOMERY, K.C.B.
JOHN JEFFRYES OAKLEY, Esq.
THE EARL OF SHREWSBURY & TALBOT.
EDWARD THORNTON, Esq.
W. FOSTER WHITE, Esq.
EDWARD WILDER, Esq.
T. PARRY WOODCOCK, Esq.

Honorary Secretary—MRS. DAVID LAING.
Secretary—CHARLES WILLIAM KLUGE, Esq., 32, Sackville Street, W.
Secretary to the Provident Fund—JOHN EVEREST, Esq.

The objects of this Society are—

Temporary Assistance to Governesses in distress, afforded privately and delicately, through the Ladies' Committee.

Annuity Fund. Elective Annuities to Aged Governesses, secured on invested capital, and thus independent of the prosperity of the Institution.

Provident Fund. Provident Annuities purchased by Ladies in any way connected with Education, upon Government Security, agreeably to the Act of Parliament. This branch includes a Savings Bank.

A Home for Governesses during the intervals between their engagements.

A System of Registration, entirely free of expense.

An Asylum for the Aged.

Membership consists in the payment of an annual Guinea, or of Ten Guineas in one sum. Subscribers are entitled to vote for Annuities in the proportion of one Vote for each Annual Half-Guinea not in arrear, and for each Donation of Five Guineas. Subscriptions are due on the 1st of January, and can always be remitted by Post-Office Order, or by a Cheque crossed 'Sir S. Scott & Co.'

GRESHAM LIFE ASSURANCE SOCIETY,

37, OLD JEWRY, LONDON.

REALISED ASSETS - - - - £1,715,049.

FAMILY TRUST POLICIES.

THE Act of Parliament, called the "Married Women's Property Act, 1870," passed in the last Session, having opened out a new field for Life Assurance, Special Forms of Trust Policy have been prepared for assuring the life of a husband for the separate benefit of his wife, and also for the separate benefit of his wife and children.

By the "Married Women's Property Act," such Policies are free from Liability to the Creditors of the Husband's Estate; consequently, this form of Assurance is especially to be recommended where a provision for a family is desired.

For Forms of Proposal, apply to the Society's Agents, or to

F. ALLAN CURTIS, *Actuary and Secretary.*

NATIONAL

LIFE ASSURANCE SOCIETY,

2, KING WILLIAM STREET, LONDON, E.C.

FOR MUTUAL ASSURANCE.

ESTABLISHED 1830.

This Society does NOT pay Commission for the introduction of business, and consequently does not employ any Agents to recommend it.

But it offers great advantages to assurers in the two points of most importance to them, viz.:—

SAFETY, which is guaranteed by a reserve Fund exceeding £600,000, being in the unusually large proportion of more than 90 PER CENT. of the whole of the premiums which have been received upon existing Policies; and

LARGE BONUSES, the whole of the profits being applied in the gradual reduction and ultimate extinction of the Assurer's premiums.

Prospectuses forwarded post free on application to

CHARLES ANSELL, JUN., *Actuary.*

NATIONAL PROVIDENT INSTITUTION.

GRACECHURCH STREET, LONDON.

Established December, 1835.

Mutual Assurance without Individual Liability.

DIRECTORS.

Chairman—CHARLES GILPIN, Esq., M.P.
Deputy-Chairman—CHARLES WHETHAM, Esq., Ald.

WILLIAM JNO. BARRON, Esq.
HENRY WHITE CASTLE, Esq.
Sir THOMAS CHAMBERS, Knt., Q.C., M.P.
JOSEPH FELL CHRISTY, Esq.
HENRY CONSTABLE, Esq.
WILLIAM JAMES HASLAM, Esq.
CHARLES W. C. HUTTON, Esq.
CHARLES REED, Esq., F.S.A., M.P.
JOHN SCOTT, Esq.
JONATHAN THORP, Esq.

Medical Officers—THOMAS B. PEACOCK, Esq., M.D., & JOHN GAY, Esq., F.R.C.S.
Solicitor—SEPTIMUS DAVIDSON, Esq.
Consulting Actuary.—CHARLES ANSELL, Esq., F.R.S.

Amount of Profit of the five years ending 20th November, 1867,	£558,848	15	10
Total Profit realised since the commencement	£1,786,107	1	1
Gross Annual Income for the year 1871, from			
Premiums	£312,692	1	1
Ditto, Ditto, Interest ...	£119,510	2	7
	£432,202	3	8
Expenses of Management (including Commission)	£21,014	5	1
Amount of Accumulated Fund on the 20th November, 1871 ...	£3,101,086	10	6
Amount paid in claims	£2,956,424	10	3

Advances are made on the Society's Policies to the extent of their value.

The Prospectus, with the last Report of the Directors, and all other information, may be had on application at the Office.

HENRY RANCE, *Secretary*.

PELICAN
LIFE INSURANCE COMPANY,

ESTABLISHED IN 1797.

70, LOMBARD STREET, CITY; AND 57, CHARING CROSS, WESTMINSTER.

DIRECTORS.

HENRY R. BRAND, Esq, M.P.
OCTAVIUS E. COOPE, Esq.
JOHN COOPE DAVIS, Esq.
HENRY FARQUHAR, Esq.
CHAS. EMANUEL GOODHART, Esq.
KIRKMAN D. HODGSON, Esq, M.P.
HENRY LANCELOT HOLLAND, Esq.
SIR J. LUBBOCK, Bart., M.P., F.R.S.
JOHN STEWART OXLEY, Esq.
BENJAMIN SHAW, Esq.
DUDLEY ROBERT SMITH, Esq.
M. WYVILL, Jun., Esq.

This Company offers COMPLETE SECURITY.

MODERATE RATES of Premium, with Participation in Four-fifths, or 80 per Cent., of the Profits.

LOW RATES without Participation in Profits.

LOANS in connection with Life Assurance, on approved Security, in sums of not less than £500.

ANNUAL PREMIUM required for the Assurance of £100 for the whole term of life:—

AGE.	WITHOUT PROFITS.	WITH PROFITS.
15	£1 11 0	£1 15 0
20	1 13 10	1 19 3
30	2 4 0	2 10 4
40	2 18 10	3 6 5
50	4 0 9	4 10 7
60	6 1 0	6 7 4

ROBERT TUCKER, *Secretary and Actuary*.

ROCK LIFE ASSURANCE COMPANY.

ESTABLISHED A.D. 1806.

No. 15, NEW BRIDGE ST., BLACKFRIARS, LONDON, E.C.

DIRECTORS.

G. P. BIDDER, Esq.
THE RIGHT HON. J. G. DODSON, M.P.
G. A. FULLER, Esq.
J. GODDARD, Esq.
R. HUDSON, Esq., F.R.S.
J. KELK, Esq.
S. LAURENCE, Esq.
LIEUT.-GEN. SIR G. ST. P. LAWRENCE, K.C.S.I., C.B.
T. H. LONGDEN, Esq.
C. T. LUCAS, Esq.
J. D. MAGENS, Esq.
C. RIVAZ, Esq.
W. B. TOWSE, Esq.
H. TRITTON, Esq.
S. H. TWINING, Esq.

The **ROCK LIFE ASSURANCE COMPANY**, which has been established upwards of **Half a Century**, has an **Accumulated Fund** of more than **Three Millions Sterling**, invested in Mortgages on Land, and other first-class Securities:—

	£	s.	d.
Viz., on the 20th August, 1868	3,172,604	15	8
Sum Assured—Inclusive of Bonus Additions—at that date	5,380,750	2	11
Estimated Liability thereon (Northampton Table of Mortality, 3 per Cent. Interest).	1,481,569	0	4
That is less than one-half the Fund invested.			
Total Amount of Bonus Additions made to Policies	2,895,059	19	9
Amount of Profits divided for the Seven Years ending 20th August, 1868	532,369	7	8
Annual Income	314,867	14	3
Total Claims paid—Inclusive of Bonus Additions	6,627,044	7	7

*** Copies of the Accounts deposited with the Board of Trade, pursuant to "The Life Assurance Companies' Act, 1870," as well as of the Periodical Valuation Accounts, and every information may be obtained on application.

H. W. PORTER, *Actuary.*

ROYAL EXCHANGE ASSURANCE CORPORATION.

(Established by Royal Charter, A.D. 1720.)

FOR SEA, FIRE, LIFE, AND ANNUITIES.

Chief Office, Royal Exchange, London; Branch, 29, Pall Mall.

JAMES STEWART HODGSON, Esq., *Governor.* CHAS. JOHN MANNING, Esq., *Sub-Governor.*
FRANCIS ALEXANDER HAMILTON, Esq., *Deputy-Governor.*

Directors.

ROBERT BARCLAY, Esq.
JOHN GARRATT CATTLEY, Esq.
MARK CURRIE CLOSE, Esq.
EDWARD JAMES DANIELL, Esq.
WILLIAM DAVIDSON, Esq.
LANCELOT WILLIAM DENT, Esq.
ALEXANDER DRUCE, Esq.
FREDERICK JOSEPH EDLMANN, Esq.
CHARLES HERMANN GOSCHEN, Esq.
CHARLES SEYMOUR GRENFELL, Esq.
ROBERT AMADEUS HEATH, Esq.
WILMOT HOLLAND, Esq.
EGERTON HUBBARD, Esq.
NEVILE LUBBOCK, Esq.
GEORGE FORBES MALCOLMSON, Esq.
LORD JOSCELINE WM. PERCY.
CHARLES ROBINSON, Esq.
SIR JOHN ROSE, Bart.
SAMUEL LEO SCHUSTER, Esq.
ERIC CARRINGTON SMITH, Esq.
OCTAVIUS WIGRAM, Esq.
MONTAGU C. WILKINSON, Esq.
CHARLES BARING YOUNG, Esq.

Physician—T. M. DALDY, Esq., M.D., 41, Finsbury Square.

FIRE ASSURANCES on Liberal Terms.
Life Assurances with or without participation in Profits.
Divisions of Profit every **Five Years.**
Medical Fees and Policy Stamps paid by the Corporation.
A liberal participation in Profits, with the guarantee of a large invested Capital Stock, and exemption, under Royal Charter, from the Liabilities of Partnership.
The advantages of modern practice, with the security of an Office whose resources have been tested by the experience of **more than a Century and a half.**
A Prospectus, Table of Bonus, and Balance Sheet will be forwarded on application.

ROBERT P. STEELE, *Secretary.*

SOVEREIGN LIFE ASSURANCE COMPANY,

48, ST. JAMES'S STREET, LONDON, S.W.

CITY OFFICE—110, CANNON STREET, E.C.

ESTABLISHED 1845.

(Empowered by Special Act of Parliament.)

Directors.

Chairman—SIR JAMES CARMICHAEL, Bart.

Deputy Chairman—JOHN ASHBURNER, Esq., M.D.

Lieutenant-Colonel BATHURST. | J. W. HUDDLESTON, Esq., Q.C.
JOHN GARDINER, Esq. | CHARLES WILL. REYNOLDS, Esq.

Sir J. E. EARDLEY-WILMOT, Bart.

This Office makes ADVANCES to Assurers on Real and, to a limited extent, on Personal Security; it presents the following advantages:—

The security of a large Accumulated Fund.

Moderate rates for all ages, climates, and circumstances connected with Life Assurance.

Prospectuses, Forms, and every information can be obtained at the Office.

HENRY D. DAVENPORT,
Secretary.

Universal Life Assurance Society,

1, KING WILLIAM STREET, LONDON, E.C.

Established 1834.

JOHN FARLEY LEITH, Esq., M.P., *Chairman.*
WILLIAM NORRIS NICHOLSON, Esq., *Deputy-Chairman.*

GEORGE HENRY BROWN, Esq. | JOHN JACKSON, M.D.
THE HON. JAMES BYNG. | JAMES JOSEPH MACKENZIE, Esq.
HENRY WALFORD GREEN, Esq. | SIR ROWLAND M. STEPHENSON.
OSGOOD HANBURY, Jun., Esq. | CHAS. FREVILLE SURTEES, Esq.

FREDERICK HENDRIKS, Esq., *Actuary and Secretary.*

The accumulated profits of the Universal, at the Thirty-eighth annual investigation in 1872 amounted to **£222,598.** Upwards of four-fifths of this sum is reserved to enter into the average of future years. The remaining fifth allows of a reduction of the premium upon all participating policies six years in force on the same liberal scale as for several years past; namely, 50 per cent, or one-half the original premium. Policies, English or Indian, upon which the premium was originally **£100,** will thus be charged with **£50** only of premium for the current year, May, 1872-73.

Policies in force, **£3,225,068.** Accumulated funds, **£917,251.** Annual income, **£164,000.**

The Directors beg to draw the attention of the public to the great economy of premiums in this Society, to its large reserves, and to its experience of nearly 40 years, during which it has secured the utmost possible benefit to the assured. The policy-holders have received cash returns of upwards of **£750,000,** in addition to about two millions sterling paid in claims upon deaths in this country, and in the civil and military services of India.

Branch Offices and Agencies in Calcutta, Madras, Bombay, and Ceylon. Additional Agents required in the United Kingdom.

Rates for Indian Assurances, without bonuses, largely reduced.

THE NATIONAL REVERSIONARY INVESTMENT COMPANY,

INSTITUTED 1837,

For the Purchase of Absolute or Contingent Reversions, Life Interests, and Policies of Assurance on Lives.

OFFICE—No. 63, OLD BROAD STREET, LONDON, E.C.

JOHN PEMBERTON HEYWOOD, Esq.—*Chairman.*
C. N. WILDE, Esq.—*Deputy Chairman.*

Forms for submitting Proposals for Sale may be obtained at the Offices of the Company.

G. A. RENDALL, *Secretary.*

PROTECTOR ENDOWMENT LOAN AND ANNUITY COMPANY.

34, KING STREET, CHEAPSIDE, LONDON, E.C.

The Directors of the above Company are prepared to ADVANCE MONEY by way of LOAN in SUMS of from £50 to £2,000. If on Personal Security, the entire amount applied for will be advanced. The repayments may be made by equal instalments extending over one, two, or three years, and in case of the Borrower's death before repayment be completed, his representatives and securities will be exonerated.

Money received on Deposit, at a fixed rate of 5 per cent.

For Prospectuses, Terms, and all other information, apply at the Chief Offices as above, or to any of the Company's Agents in the Country.

ALEX. M'MORRAN, *Secretary.*

NOTICE OF REMOVAL.

H. BOND'S MARKING INK.

The Proprietor of this most valuable Marking Ink has removed the business from No. 11, Nile Street, to No. 6, Bevenden Street, East Road, City Road, N., where all orders should be addressed, or to any of his Agents, he having no longer any connexion with Nile Street.

The public should observe the "Oak Tree" is the only genuine *Trade Mark*. No other person can manufacture H. BOND'S MARKING INK.

C. & E. LAYTON, Wholesale Agents, Fleet Street, London.

In post 8vo., price 7*s*., strongly bound in leather,

CAREY'S GRADUS, WITH THE ENGLISH MEANINGS.

A New Edition, carefully Corrected.

London: Published by the COMPANY of STATIONERS, and sold by J. GREENHILL, at their Hall, Ludgate-street.

MAUNDER'S POPULAR TREASURIES.

THE TREASURY of KNOWLEDGE and LIBRARY of REFERENCE. A copious Popular Encyclopædia of General Knowledge. Revised Edition, corrected and enlarged. Price 6*s.* cloth; or 9*s.* 6*d.* calf lettered.

THE TREASURY of GEOGRAPHY, Physical, Historical, Descriptive, and Political. Completed by W. HUGHES, F.R.G.S. Revised and corrected throughout; with 7 Maps and 16 Plates. Price 6*s.* cloth; or 9*s.* 6*d.* calf lettered.

THE BIOGRAPHICAL TREASURY. An Alphabetical Dictionary of General Biography. Reconstructed and partly rewritten, with about 1,000 additional Memoirs and Notices, by W. L. R. CATES. Price 6*s.* cloth; or 9*s.* 6d. calf lettered.

THE SCIENTIFIC and LITERARY TREASURY; or, Popular Cyclopædia of Science, Literature, and Art. Revised and in great part rewritten, with upwards of 1,000 New Articles, by JAMES YATE JOHNSON, Corr. M.Z.S. Price 6*s.* cloth; or 9*s.* 6*d.* calf lettered.

THE TREASURY OF NATURAL HISTORY; or, Popular Dictionary of Animated Nature. Revised and corrected by T. SPENCER COBBOLD, M.D., F.L.S. With above 900 Woodcuts. Price 6*s.* cloth; or 9*s.* 6*d.* calf lettered.

THE HISTORICAL TREASURY; comprising a General Introductory Outline of Universal History, Ancient and Modern, and a Series of separate Histories of every Nation. Carefully revised and brought down to the Present Date by the Rev. G. W. Cox, M.A. Price 6*s.* cloth; or 9*s.* 6*d.* calf lettered.

Uniform with Maunder's Treasuries.

THE TREASURY of BIBLE KNOWLEDGE; or, Dictionary of the Books, Persons, Places, Events, and other Matters of which mention is made in Holy Scripture. By the Rev. JOHN AYRE, M.A. With about 300 Woodcuts, 15 Plates, and 5 Maps. Price 6*s.* cloth; or 9*s.* 6*d.* calf lettered.

THE TREASURY of BOTANY; or, Popular Dictionary of the Vegetable Kingdom; with which is incorporated a Glossary of Botanical Terms. Edited by J. LINDLEY, F.R.S., and T. MOORE, F.L.S. Pp. 1,274, with 274 Woodcuts and 20 Steel Plates. In Two Parts, price 12*s.* cloth; or 19*s.* calf lettered.

London: LONGMANS, GREEN, & CO., Paternoster Row.

ALBEMARLE STREET, LONDON,
November, 1872.

MURRAY'S STUDENT'S MANUALS:

A Series of Historical Class-Books for advanced Scholars.

"This series of 'STUDENT'S MANUALS,' edited for the most part by Dr. WM. SMITH, possess several distinctive features which render them singularly valuable as educational works. While there is an utter absence of flippancy in them, there is thought in every page, which cannot fail to excite thought in those who study them, and we are glad of an opportunity of directing the attention of such teachers as are not familiar with them *to these admirable school-books*."—*The Museum.*

I.—ENGLAND.

THE STUDENT'S HUME; a History of England, from the Earliest Times. By DAVID HUME. Corrected and continued to 1868. Woodcuts. Post 8vo. 7*s.* 6*d.*

*** Questions on the "Student's Hume." 12mo. 2*s.*

THE STUDENT'S CONSTITUTIONAL HISTORY OF ENGLAND. By HENRY HALLAM, LL.D. With the Author's latest Additions and Corrections. Post 8vo. 7*s.* 6*d.*

II.—EUROPE.

THE STUDENT'S HISTORY OF THE MIDDLE AGES, including the Supplemental Notes. By HENRY HALLAM, LL.D. With the Author's latest Corrections and Additions. Post 8vo. 7*s.* 6*d.*

III.—FRANCE.

THE STUDENT'S HISTORY OF FRANCE. From the Earliest Times to the Establishment of the Second Empire, 1852. By Rev. H. W. JERVIS, M.A. Woodcuts. Post 8vo. 7*s.* 6*d.*

IV.—ROME.

(1) *The Republic.*

THE STUDENT'S HISTORY OF ROME. From the Earliest Times to the Establishment of the Empire, 1852. By DEAN LIDDELL. Woodcuts. Post 8vo. 7*s.* 6*d.*

(2) *The Empire.*

THE STUDENT'S GIBBON; an Epitome of the History of the Decline and Fall of the Roman Empire. By EDWARD GIBBON. Woodcuts. Post 8vo. 7*s.* 6*d.*

V.—GREECE.

THE STUDENT'S HISTORY OF GREECE. From the Earliest Times to the Roman Conquest. By WM. SMITH, D.C.L. Woodcuts. Post 8vo. 7*s.* 6*d.*

*** Questions on the "Student's Greece." 12mo. 2*s.*

MURRAY'S STUDENT'S MANUALS—*continued.*

VI.—ANCIENT HISTORY.

THE STUDENT'S ANCIENT HISTORY OF THE EAST. From the Earliest Times to the Conquests of Alexander the Great, including Egypt, Assyria, Babylonia, Media, Persia, Asia Minor, and Phœnicia. By PHILIP SMITH, B.A. Woodcuts. Post 8vo. 7*s.* 6*d.*

VII.—SCRIPTURE HISTORY.

THE STUDENT'S OLD TESTAMENT HISTORY. From the Creation to the Return of the Jews from Captivity. With 50 Maps and Woodcuts. Post 8vo. 7*s.* 6*d.*

THE STUDENT'S NEW TESTAMENT HISTORY. With an Introduction, containing the connection of the Old and New Testament. With 40 Maps and Woodcuts. Post 8vo. 7*s.* 6*d.*

VIII.—LANGUAGE, LITERATURE, &c.

THE STUDENT'S MANUAL OF THE ENGLISH LANGUAGE. By GEORGE P. MARSH. Edited with Additional Chapters and Notes. Post 8vo. 7*s.* 6*d.*

THE STUDENT'S MANUAL OF ENGLISH LITERATURE. By T. B. SHAW, M.A. Edited with Notes and Illustrations. Post 8vo. 7*s.* 6*d.*

THE STUDENT'S SPECIMENS OF ENGLISH LITERATURE. Selected from the Best Writers. By THOS. B. SHAW, M.A. Edited with Additions. Post 8vo. 7*s.* 6*d.*

IX.—GEOGRAPHY.

THE STUDENT'S MANUAL OF ANCIENT GEOGRAPHY. By Rev. W. L. BEVAN, M.A. Woodcuts. Post 8vo. 7*s.* 6*d.*

THE STUDENT'S MANUAL OF MODERN GEOGRAPHY. By Rev. W. L. BEVAN, M.A. Woodcuts. Post 8vo. 7*s.* 6*d.*

X.—SCIENCE.

THE STUDENT'S ELEMENTS OF GEOLOGY. By Sir CHARLES LYELL, F.R.S. With 600 Woodcuts. Post 8vo. 9*s.*

XI.—PHILOSOPHY AND LAW.

THE STUDENT'S MANUAL OF MORAL PHILOSOPHY. With Quotations and References. By WILLIAM FLEMING, D.D. Post 8vo. 7*s.* 6*d.*

THE STUDENT'S BLACKSTONE. An Abridgment of the Commentaries, adapted to the Present State of the Law. By R. MALCOLM KERR, LL.D. Post 8vo. 7*s.* 6*d.*

JOHN MURRAY, ALBEMARLE STREET.

LIST OF THE

ALMANACS

FOR THE YEAR 1873,

PRINTED FOR THE

COMPANY OF STATIONERS.

Almanacs for the Clergy, containing the Old and New Lectionaries for every Day in the Year.

GILBERT'S CLERGYMAN'S ALMANAC AND WHITAKER'S CLERGYMAN'S DIARY, in Cloth.

This Almanac contains a complete Calendar of the Festivals, &c., of the Church of England, with the Lessons appointed for every day in the year; a Diary of 90 pages for Memoranda; a complete List of the Dignified Clergy of each Diocese in England, Wales, Ireland, and the Colonies, with the official Armorial Bearings of each Archbishop and Bishop; a List of the Incumbents of London and of Parishes within ten miles of London; of the Officials of the Universities and Public Schools; of the Head Masters of Endowed Grammar Schools; a very complete Peerage, and other information interesting to the Clergy and Laity of England. Price 2*s.* 6*d.*

This Almanac is to be procured in roan tuck, 5*s.*; morocco, 6*s.*; with lock, 8*s.*

THE CLERICAL ALMANAC.

NOW CONSIDERABLY ENLARGED AND IMPROVED, contains, besides the customary contents of an Almanac, Proper Lessons for every day in the year; Transfer Days at the Bank, &c.; Universities of Oxford, Cambridge, and London; Archbishops, Bishops, Deans, Archdeacons, Queen's Chaplains, &c.; Alphabetical Lists of the English, Scotch, and Irish Nobility, with their surnames; Epitome of Assessed Taxes, Stamp and Legacy Duties, &c. Price 9*d.*, sewed; roan tuck, 2*s.* 6*d.*; morocco, 4*s.*; with lock, 6*s.*

FRANCIS MOORE'S ALMANAC.

This very popular Almanac, which, besides the usual Calendar, contains a fuller account of the Eclipses and Astronomical Phenomena of the Year than any publication of its class, was lately increased by several pages, giving Lists of the Members of the Government, the Houses of Parliament, and other useful information, to which has been added a half sheet containing a List of the principal Business Fairs in England and Wales. Price 6*d.*

GOLDSMITH'S ALMANAC.

Elegant, useful, and portable, it is essentially adapted for the pocket, not only from its miniature size, but from its containing a vast amount of useful and valuable matter for occasional reference. Price 6*d.*

It is kept by all Booksellers in a variety of bindings, for Presents.

THE BRITISH ALMANAC AND COMPANION.

In Cloth. Price 4*s.*

THE BRITISH ALMANAC.

Containing the Calendar of Remarkable Days and Terms; Monthly Notices, Sunday Lessons; Meteorological Tables and Remarks; Astronomical Facts and Phenomena; Tables of the Sun, Moon, and Tides; with a Miscellaneous Register of Information connected with Government, Legislation, Commerce, and Education; and various useful Tables. Price 1*s*.

THE COMPANION TO THE ALMANAC.

A Year-Book of General Information for 1873, on Subjects connected with Mathematics, Geography, Fine Arts, Political Economy, Public Improvements, Legislation, Statistics, &c. Price 2*s*. 6*d*.

THE STATIONERS' COMPANY'S SHEET ALMANAC.

On super-royal paper, is equally adapted for the Counting-house and the Library, containing List of the chief Officers of State, Judges, Public Offices, London Bankers and Insurance Offices, with very copious Postal Inf rmation, is embellished with a VIEW OF THE THAMES EMBANKMENT, of which Proof Impressions on thick paper may be had at 3*s*. each. Price 2*s*.

THE LONDON SHEET ALMANAC.

On thick drawing paper for the table. This elegant and unique little Almanac, containing much information, is also printed on a thin paper, to adapt it for binding in a variety of styles suited to all tastes and fancies. It is this year ornamented with a VIEW OF THE NEW CHARTERHOUSE SCHOOL, GODALMING. Price 6*d*.

WING'S SHEET ALMANAC.

A very useful Office and Counting-house Companion, printed in Black and Red. Price 6*d*.

COUNTY ALMANACS,

(PRICE SIXPENCE EACH),

With various useful TABLES, particularly adapted to each County, viz.:

Middlesex, Hertfordshire, Essex, Kent, Surrey, and Sussex.

Cornwall, Devonshire, Somersetshire, and Dorsetshire.

Gloucestershire, Worcestershire, Herefordshire, Monmouthshire, and South Wales.

Norfolk, Suffolk, Cambridgeshire, Ely, Huntingdonshire, and Bedfordshire.

Warwickshire, Northamptonshire, Leicestershire, Rutlandshire, Lincolnshire, Nottinghamshire, and Derbyshire.

Cheshire, Lancashire, Shropshire, Staffordshire, and North Wales.

Wiltshire, Hampshire, Oxfordshire, Berkshire, and Buckinghamshire.

Yorkshire, Durham, Northumberland, Westmoreland, and Cumberland.

Also, in post 8*vo*., *price* 7*s*., *strongly bound in leather,*

CAREY'S GRADUS, with the ENGLISH MEANINGS.

A New Edition, carefully Corrected.

Published by the COMPANY OF STATIONERS, and sold by J. GREENHILL, at their Hall, Ludgate-street.

THE GREAT FAMILY MEDICINE OF THE AGE!

NOTICE.—On and after the 1st of January, 1873, ALL BOXES issued by the Proprietors will have the Government Stamp pasted over each box instead of being on the outside wrappers as heretofore; and on each respective box and on the outside wrappers there will be printed the name and the TRADE MARK of the Firm.

WHELPTON'S

VEGETABLE PURIFYING PILLS

Are warranted not to contain a single particle of MERCURY or any other MINERAL SUBSTANCE, but to consist entirely of Medicinal Matters, PURELY VEGETABLE

THEY HAVE BEEN USED BY THE PUBLIC FOR NEARLY 40 YEARS,

and have proved their value in thousands of instances in diseases of the HEAD, CHEST, BOWELS, LIVER, and KIDNEYS; also in ULCERS, SORES, and RHEUMATISM; and in all SKIN COMPLAINTS are one of the

BEST MEDICINES KNOWN.

ALSO

WHELPTON'S VEGETABLE STOMACH PILLS

Are particularly suited to Weakly Persons, being exceedingly mild and gradual in their operation, imparting tone and vigour to the Digestive Organs.

BRITISH MUSEUM 12 DE 72

Prepared and sold wholesale and retail in boxes, price 7½d., 1s. 1½d., and 2s. 9d., by G. WHELPTON & SON, 3, Crane Court, Fleet Street, London; sent free to any part of the United Kingdom on receipt of 8, 14, or 33 stamps.

SOLD BY ALL CHEMISTS, MEDICINE VENDORS, AND STOREKEEPERS, AT HOME AND ABROAD.